Evaluation of the Welfare to Work Voucher Program

Report to Congress

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

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Prepared for:
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Prepared by:
Rhiannon Patterson
Michelle Wood
Ken Lam
Satyendra Patrabansh
Gregory Mills
Abt Associates, Inc.

Steven Sullivan
Hiwotte Amare
Lily Zandniapour
QED Group LLC

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This report was a collaborative effort by the staff of Abt Associates and our small business subcontractor, the QED Group LLC. The principal authors of each chapter were as follows:

- Chapter One: Michelle Wood, Abt Associates;
- Chapter Two (and Appendix C): Michelle Wood, Abt Associates;
- Chapter Three (and Appendices B and D): Steven Sullivan, QED Group;
- Chapter Four (and Appendix E): Rhiannon Patterson, Abt Associates;
- Chapter Five (and Appendix F): Rhiannon Patterson, Abt Associates;
- Chapter Six (and Executive Summary): Gregory Mills, Abt Associates.

Several staff from Abt Associates and the QED Group were instrumental in collecting and assembling the data for this report. Alvaro Cortes, Anne St. George, and Jennifer Turnham conducted site visits to the participating housing agencies to gather information about WtWV program operations. Robert Teitel, Bulbul Kaul, and Satyendra Patrabansh of Abt Associates assembled analytic files used to assess lease-up patterns across sites and the address histories of the research sample. Hiwotte Amare, Lily Zandniapour, and Pronita Chakrabarti of the QED Group assembled analytic files from unemployment insurance wage records, TANF and Food Stamp benefit data, and tract-level Census data. Ken Lam assisted with the econometric estimation of impacts. Jill Khadduri, as Technical Reviewer, provided thoughtful and constructive comments on early versions of the report. Larry Orr and Stephen Kennedy jointly developed the econometric approach described in Appendix A. Missy Robinson, Peggy Anthony, and Jeff Smith did an excellent job in producing the document.

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Foreword

In the HUD Appropriations Act for Fiscal Year 1999, the Congress enacted the Welfare to Work Voucher Program. This program funded approximately 50,000 housing choice vouchers for families receiving or eligible to receive welfare and for whom the receipt of housing assistance was deemed critical to obtaining or retaining employment. This act also specified that HUD would conduct an evaluation of the effect of providing this assistance.

This report to the Congress presents the results of that evaluation. It shows that over a three-year period, those receiving housing choice vouchers experienced small, but statistically significant, reductions in both their rates of employment and amounts of earnings. It also shows that the benefit amounts through Temporary Assistance to Needy Families (TANF) and Food Stamps were greater for those families who received housing choice vouchers than for those who did not. On the other hand, it also shows that the families who received vouchers experienced improvements in their neighborhoods. The study does not address the reasons for these results.

To respond to the Congressional mandate, HUD contracted with Abt Associates to set up a rigorous evaluation of the program. In six communities, public housing agencies randomly assigned 8,732 families into two groups, a treatment group who received a voucher and a control group who did not. Researchers followed both groups and acquired administrative data on them, including information on employment, earnings, welfare receipt, and housing location. The study compares the outcomes on these data for the treatment and control groups.

HUD is continuing to study the Welfare to Work Voucher families to help understand how receiving a voucher may affect other aspects of a family's well being. This research should provide insight into whether the modest, negative short-term effects noted here are likely to persist.

Darlene F. Williams
General Deputy Assistant Secretary for
Policy Development and Research

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Executive Summary

The Welfare to Work Voucher (WtWV) program was initiated in Fiscal Year 1999 when Congress appropriated $283 million for tenant-based housing vouchers to help families make the transition from welfare to work. This appropriation (P.L. 105-276) funded 50,000 new vouchers. The assistance was awarded initially to 129 local and state housing agencies that presented reasonable plans for helping eligible families find available housing and for coordinating these efforts with existing welfare reform and welfare-to-work efforts.

Congress also mandated a comprehensive evaluation of the WtWV program to assess the results of rental assistance through housing vouchers in promoting the self-sufficiency of welfare families. Vouchers might help families through improving their housing locations or stabilizing their living arrangements, better enabling them to obtain and retain employment and thereby reduce their dependency on welfare. The U.S. Department of Housing and Urban Development's (HUD) Office of Policy Development and Research is sponsoring the evaluation using a multi-site experimental design. Under this design, random assignment was used to assign program-eligible applicants at each site to either the treatment group, who received a WtW voucher and any accompanying employment- and housing-related services offered by the site, and a control group, who did not receive a WtW voucher or services but were returned to (or placed on) a waiting list for tenant-based rental assistance under the regular Housing Choice Voucher (HCV) program. Starting in 1999, HUD contracted with Abt Associates to implement random assignment and to conduct the quantitative and qualitative research to assess the effects of the WtWV program on participant outcomes.

This research offers powerful new evidence concerning the effects of tenant-based rental assistance on self-sufficiency. The experimental design enables one to draw rigorous inferences about the effects of housing vouchers on family well being, independent of all other factors affecting the lives of program participants. Random assignment serves to assure that the treatment and control groups are well matched on both observed and unobserved characteristics at the time of their entry into the study. It thus establishes the strongest possible foundation for understanding whether housing vouchers can assist welfare families in achieving greater financial independence or otherwise improving their lives.

This study is especially timely in light of federal and state changes in welfare policies over the past decade, reducing the numbers of families eligible for public assistance and limiting the time period over which they can receive benefits. Housing vouchers may help low-income families become employed and may also help them meet financial needs as they transition from welfare.

The current report presents interim findings as to the impact of the WtWV program on the quality of a family's residential location, on employment and earnings, and on receipt of public assistance. The analysis, based on a six-site research sample of 8,732 families, makes use of outcome measures derived from tract-level Census data and person-level administrative data. The impact estimates in this report encompass a follow-up period that is five quarters in duration for all sites, and longer for some sites, reflecting the timing of random assignment and the availability of outcome measures.

The aim of this continuing evaluation is to understand the effects of tenant-based rental assistance on the economic self-sufficiency and well being of low-income families. Current plans call for a survey of participants in their fourth follow-up year (2004) and an extension of the current analysis of outcomes derived from Census data and administrative sources. A longer-term assessment will be highly informative, as the typical length of stay in vouchers is three years, and many families receive assistance for longer periods. Some effects may be slow to emerge. The study, in its entirety, will provide Congress and other policy-makers with evidence of the extent to which tenant-based rental assistance enables low-income families not only to better meet their immediate housing needs but also, over the long term, to better avail themselves of job opportunities. In addition, the experimental sample can be used to examine other potential effects of housing assistance, such as improvements in child well being, food security, and participation in education and training.

Evaluation Sites and Program Implementation

The WtWV evaluation has been conducted in six sites that were selected in early 2000 and makes use of a total research sample of 8,732 families that were randomly assigned during 2000 and 2001. The sites (and their sample sizes, including both treatment and control groups) are as follows:

- Atlanta, Georgia (1,134)
- Augusta, Georgia (759)
- Fresno, California (2,622)
- Houston, Texas (2,021)
- Los Angeles, California (1,047)
- Spokane, Washington (1,149)

Random assignment began in April 2000 (in Fresno and Houston, the first-enrolled sites) and ended in May 2001 (in Los Angeles, the last-enrolled site).

The implementation of the WtWV program was monitored in each site to clearly establish the nature of the WtWV program intervention. Specific attention was given to whether (in addition to the voucher itself) the site provided any services to treatment group members that were not also received by control group members. In most sites, any employment-related services offered in conjunction with the voucher were modest and similar to those available to the control group through the TANF agency. In Fresno, where specialized case management and employment services were developed for WtWV recipients, the timing of these services was such that they were not likely to have been provided to treatment group members during the first 12 to 18 months following random assignment. In Augusta, a case manager was added to the housing agency's staff in 2002 to provide specialized services to WtW voucher participants, but this occurred nearly two years after enrollment of the research sample, making it unlikely that they received these services. We have concluded, therefore, that in assessing the interim effects of the WtWV program for this report, the intervention being tested is the voucher itself.

Data Sources

The following data sources have been used to measure the impacts of the WtWV program on the participating families:

- ***Baseline survey***—To obtain basic descriptive, identifying, and locating information on the research sample upon entry into the demonstration, we administered a baseline survey to all sample members immediately prior to random assignment, covering employment status, satisfaction with the housing unit and neighborhood, receipt of public assistance, household composition, and information on contact persons.

- ***Unemployment insurance wage records***—To measure the effects of the WtWV program on the employment and earnings of participants, we collected quarterly employer-reported earnings records from the employment security agencies of the four states participating in the WtWV evaluation, for the period January-March 1999 (i.e., at least one year prior to random assignment) through July-September 2002.

- ***TANF data files***—To measure the effects of the WtWV program on public assistance, we collected information from state or local welfare agencies on the receipt of Temporary Assistance for Needy Families (TANF) and food stamp benefits, for a time period beginning at least one year prior to random assignment and extending through September 2002.

- ***MTCS data files***—To monitor the receipt of housing assistance through the Housing Choice Voucher and public housing programs by sample members, data from HUD's Multifamily Tenant Characteristics System (MTCS) were collected in three extracts (May and December 2001 and September 2002).

- ***TRACS data files***—To identify sample members who had received project-based assistance, we obtained a September 2002 data extract from HUD's Tenant Rental Assistance Certification System (TRACS) containing information reported to HUD by property owners under the project-based Section 8 program.

- ***Participant tracking***—To obtain current address information on sample members, we implemented a series of active tracking measures (i.e., periodic mail outs to sample members requesting updated address and telephone information on sample members and contact persons) and passive tracking measures (i.e., periodic extracts from administrative and commercial databases to obtain updated address and telephone information).

- ***2000 Census data***—To construct measures of neighborhood quality, data from the Census Bureau's Summary File 3 were assembled for the census tracts in which participants resided during the follow up period, by geocoding the addresses collected at the time of random assignment and the updated addresses gathered from MTCS, TRACS, and TANF data, and from the participant tracking efforts.

- ***Local housing and employment data***—We obtained data for the cities and metropolitan areas in which the study sites are located from demographic profiles available from Bureau of the Census and Bureau of Labor Statistics on total population, incidence of poverty, median household incomes, housing vacancy rates, and labor market conditions.

- ***Interviews with program staff and service providers***—To monitor the implementation and operations of the WtWV programs in the research sites, we conducted on-site interviews with staff from the local HAs, TANF agencies, and other partner organizations in October-December 2001 and in February-March 2003.

- ***Interviews with participants***—To obtain detailed information about the employment and housing experiences of a small group of WtWV participants, we conducted in-person interviews with 75 individuals across the six sites during February-March 2002.

Sample Characteristics, Lease-up Patterns, and Impact Measures

Baseline survey data were obtained for 8,573 of the 8,732 individuals randomly assigned across the six evaluation sites. The sample is predominantly female, never married, and between the ages of 18 and 44, with an average age of 30.7 years. Nearly half the sample members are non-Hispanic black, while 21 percent are Hispanic, and 20 percent are non-Hispanic white. Over one-half of sample members (nearly 57 percent) either graduated from high school or had a GED, and at the time of random assignment 16 percent were enrolled in some type of school or training program. The average household included four persons. Comparison of the baseline characteristics between the treatment and control cases indicates that random assignment succeeded in providing two well matched groups.

Through the 15th month after random assignment, 57 percent of treatment group members across all sites had leased with a WtW voucher. Among all control group members, 14 percent had leased with a voucher issued to them under the regular HCV program. The 15th-month lease-up rates in the treatment group varied from a low of 34 percent in Los Angeles, to a high of 75 percent in Augusta. Among control group members, lease-up rates at Month 15 ranged from a low of 6 percent in Los Angeles to a high of 22 percent in Augusta.

In estimating the effects of the WtWV program, it was important to take account of the fact that some treatment group members failed to lease up with their WtW voucher (i.e., treatment-group nonparticipation), while some controls received, and leased up with, a voucher from the regular HCV program (i.e., control-group crossover). In all of the tables presenting impact estimates in this report, we present two sets of estimates, as follows:

- ***Intent-to-Treat (ITT) estimates.*** The ITT estimates measure the impact of the treatment on the entire treatment group, relative to the entire control group, adjusting only for a standard set of baseline participant characteristics. These estimates are called "Intent to Treat" estimates because they describe the impact of the treatment on the entire group, which the program *intended* to assist, regardless of whether individual members of the

treatment group *actually* received the treatment (and whether control group members may have received the treatment).

- ***Treatment-on-Treated (TOT) estimates.*** The TOT estimates represent the impact of the treatment on *those treatment group members who were actually treated* – in other words, those treatment group members who received a voucher and successfully leased up. The TOT impacts thus adjust both for treatment group nonparticipation in the program and for the fact that some control group members came off the HCV waiting list to receive a voucher and did lease up (control group crossover). The TOT impacts estimated in this report take advantage of the fact that we know exactly when each treatment or control group member leased up; we thus can make an econometric adjustment that accounts for the amount of time any given control group member was a crossover.

The findings noted below all pertain to the TOT estimates.

Impacts of WtW Vouchers on Where Families Live

Receipt of housing assistance in the form of a voucher should allow recipients to access housing in a wider range of neighborhoods (including their existing residence) than without the voucher. If a unit in a higher-quality neighborhood becomes affordable with the voucher, the family can move to that unit. Additionally, the voucher may enable the family to "lease in place" (in their current unit), possibly avoiding a move to a neighborhood of lesser quality. An *impact on neighborhood quality* in this report refers to the net result of the pattern of "moves and stays" for treatment group members, versus the pattern for the control group. In this context, leasing in place may offer locational advantages as well as stability to a family's life.

Approximately 53 percent of the treatment group who had leased up by the 15th month following random assignment had leased up within their baseline Census tract, with the bulk of these lease-ups (45 of the 53 percent) representing leases in place. Nevertheless, the voucher was found to have a large and statistically significant impact on the probability of an out-of-tract move by the 5th quarter. This was a highly systematic effect, estimated as large in magnitude and statistically significant (at the 0.05 level) for all major subgroups (e.g., groups defined by demographic characteristics), as well as for the full research sample.

In conjunction with the higher rate of out-of-tract mobility among treatment cases, the evidence indicates that treatment cases came to reside in somewhat better neighborhoods than the control group, using available tract-level indicators of neighborhood quality from the 2000 Census. (Note that the impact estimates reflect only the effects of moving to different tracts, not whether the characteristics of the neighborhoods themselves were changing.) At the fifth quarter after random assignment, impact estimates for the full research sample indicated that the WtWV treatment was associated with residence in neighborhoods with higher adult employment (percentage of persons employed, among those 16 or older in the labor force). This effect was statistically significant (at the 0.10 level) but very small in magnitude (an increase of less than 0.5 percent, with the control group mean at 87 percent). For several subgroups, favorable impacts were found on multiple indicators of neighborhood quality. The subgroup impacts noted below were all statistically significant (at the 0.10

level or better), but were very small in magnitude. Specifically, for those residing in public or assisted housing at baseline, the voucher users came to reside in neighborhoods with a higher adult employment rate, lower poverty rate (percentage of persons with incomes below 100 percent of the poverty level), higher "above-twice-poverty" rate (percentage of persons with incomes above 200 percent of the poverty level), and lower minority concentration (percentage of persons of non-white race and/or Hispanic ethnicity) in one's fifth-quarter neighborhood. For those younger than 24 at random assignment, the treatment was associated with a higher adult employment rate, lower poverty rate, and higher above-twice-poverty rate in one's Census tract. For the black (non-Hispanic) subgroup, the treatment was associated with a higher adult employment rate and lower poverty rate.

In sum, the WtW voucher program resulted in small but statistically significant improvements in neighborhood quality, for particular subgroups in difficult housing arrangements (residing in public or assisted housing), facing disadvantages in the labor market (the black non-Hispanic subgroup), or having weaker barriers to mobility (younger persons). Future analysis will reveal whether these small but statistically significant short-term effects lead to favorable impacts on outcomes that are plausibly related to neighborhood quality, such as the health and social and educational development of children and the development of social networks tying individuals to communities.

Impacts of WtW Vouchers on Employment and Earnings

Although the WtW Voucher program was intended to improve labor market outcomes for participants, the program in fact created both positive and negative incentives to work. In the short term, one can expect that receipt of income-tested rental assistance (where no relocation is required) might *reduce* work incentives. The rent subsidy has two effects that might be expected to reduce work effort. First, the subsidy increases the family's unearned income, thereby reducing the need to work to maintain a given level of consumption. Second, because the subsidy amount declines as earnings rise, the net return to work is reduced. The favorable effects of the rental assistance on employment and earnings would come through individuals using their vouchers to relocate (or remain) closer to jobs and in neighborhoods where social norms are more supportive of employment. As noted above, the neighborhood effects observed among WtWV program participants were quite modest; therefore, we should not be surprised to find that the indirect positive effects of voucher receipt on employment and earnings are small. In fact, the short-term evidence here indicates that program participation tended to reduce employment rates and earnings amounts. Thus, it appears that on balance the negative effects of program participation on work incentives outweighed the positive effects, for the five- to seven-quarter follow-up periods observed to date.

We found that participants in the WtW Voucher have experienced statistically significant, if modest, reductions in rates of employment and amounts of earnings. Among treatment group members who leased up (versus non-crossover controls), the amount of time spent employed over the followup period was 7 to 8 percent less; the amount of earnings was 12 to 14 percent lower.

These results are not inconsistent with our expectations, given that more than half of treatment-group voucher users remained within their baseline Census tract. It seems probable that the potentially favorable employment impacts of the program – many of which operate through the beneficial effects of residing in a better neighborhood and in closer proximity to employment – were outweighed by the

economic disincentives to work (added income and lower returns to work) and by the transitional disruptions associated with moving. One must recognize, however, that the benefits of greater residential stability – in terms of enhancing one's ability to get and keep a job – may take time to emerge.

Although some of the employment-lowering effects associated with the program will last for the duration of voucher receipt (such as the economic disincentive effects), others are short-term. For example, moving poses only a temporary disruption to job search, employment, and social networks. In contrast, *all* of the program mechanisms favorable to employment are long-term, and all are likely to take considerable time before they have a significant impact on behavior. For example, easier access to employment is likely to produce a more intensified and more productive job-search; but an intensified job-search takes time before it translates into employment and earnings. For persons already employed, the beneficial effects of moving – in particular, access to better jobs – may well take even longer to appear, as the economic pressure to change jobs is substantially weaker than the economic pressure to find a job in the face of unemployment. It seems likely, therefore, that the positive mechanisms associated the WtW Voucher program will continue to influence participant behavior over time, while some of the transitory negative mechanisms will cease to be important.

Impacts of WtW Vouchers on Cash Assistance and Food Stamps

Consistent with the finding of negative program impacts for employment and earnings, we found no evidence that the WtWV program decreases the use of TANF and Food Stamps (based on all sites except Fresno, where food stamp data were not available). To the contrary, we found substantial evidence that the amounts of both TANF and Food Stamp benefits received over the follow-up period were significantly higher for the treatment group than for the control group. These findings are not surprising, as lower employment rates and earnings are expected to produce higher welfare receipt.

As discussed above in relation to the effects on employment, it is possible that the positive mechanisms of the WtWV program will gain strength over time, as program participants who have relocated gain increased exposure to their new neighborhood environments and the longer-term positive effects of improved family stability begin to appear, while some of the negative mechanisms of the WtWV program (such as the transitional disruptions to employment and to social networks) decline in importance.

Concluding Assessment

The evaluation findings presented in this report encompass a short-term follow-up period: five calendar quarters for the estimated effects that make use of the full research sample. The adverse effects on employment and earnings, along with those on public assistance, could shift over a longer-term follow-up interval. Based on qualitative interviews with families participating in the study and the behavior of other low-income families, one can expect that treatment group and control group members will make successive moves over the course of time. Even for those who do not move, the economic and social benefits derived from stability and locational advantage may take time to emerge. A key empirical question, to be addressed in the upcoming research, is whether the short-

term favorable effects on neighborhood location will translate into increased earnings and reduced public assistance for the treatment group over the longer term.

The plans for the next phase of this evaluation call for a follow-up survey of a subset of the research sample, to occur in the fourth follow-up year of the demonstration. Continued collection of administrative data on earnings and public assistance of all sample members is also anticipated. Further locational tracking of the sample will also be conducted through a combination of active and passive tracking methods. These tracking efforts will enable us not only to achieve a high survey response rate but also to extend forward the geocoded address histories of sample members and thus to attach tract-level indicators of neighborhood quality over a longer follow-up interval. The survey will address questions regarding the uses of discretionary income (e.g., to increase food security), the uses of nonlabor hours (e.g., for education and training activities, parental supervision), issues of job search and job quality, and the characteristics of sample members' housing unit and neighborhood environment. This upcoming data collection will thus support a much more comprehensive analysis of the effects of housing vouchers on welfare families.

Chapter One
Introduction

The Welfare to Work Voucher (WtWV) program was initiated in Fiscal Year 1999 when Congress appropriated $283 million for tenant-based rental assistance to help families to make the transition from welfare to work. This appropriation funded 50,000 new rental assistance vouchers (P.L. 105-276). These vouchers were awarded to local and state housing agencies that presented reasonable plans for matching up eligible families with the available housing assistance and for coordinating these efforts with existing welfare reform and welfare-to-work efforts.

Congress also mandated a comprehensive evaluation of the WtWV program to assess the results of the rental assistance in promoting self-sufficiency of families who receive the assistance. The U.S. Department of Housing and Urban Development's (HUD) Office of Policy Development and Research is sponsoring the evaluation and is conducting the study as a social experiment, with random assignment of families to receive WtW vouchers or to a control group, which receives no housing assistance from the demonstration. In implementing a rigorous evaluation of the effects of the WtWV program, HUD has taken a large step towards expanding what is known about the effects of tenant-based rental assistance on the economic self-sufficiency and well being of low-income families.[1] The study will provide policymakers and Congress with evidence of the extent to which providing tenant-based rental assistance to low-income families not only meets their immediate housing needs but, over the long term, increases families' work efforts by helping them to move closer to jobs and to find and retain employment. In addition, the experimental research design and study sample can be used to examine other effects of housing assistance, such as child well-being and adult family members' participation in education and training.

In 1999, HUD contracted with Abt Associates to design and implement the study and, through subsequent task order contracts, to collect and analyze data on the experiences of program participants. The current report presents results of the assessment of net impacts of the WtWV program on the quality of family's residential location, employment, earnings, and receipt of public assistance. This analysis provides the first rigorous and unbiased findings on the effect of housing assistance on earnings, employment, and receipt of public assistance.

1.1 Overview of the Welfare to Work Voucher Program

Background and Objectives

The WtWV program provides rental assistance vouchers to a targeted group of low-income families: current and former recipients of TANF benefits and services or those eligible to receive such assistance. In addition to the special eligibility requirements for the WtW voucher program, there are two key operational differences that distinguish it from the Housing Choice Voucher (HCV) program

[1] For a review of recent literature on the effects of housing assistance, see Shroder (2002).

as it is generally administered. The final rule governing the operations of the regular HCV program (24 CFR Parts 888 and 982) requires that not less than 75 percent of new admissions to the program have incomes at or below 30 percent of the area median income. This requirement can be reduced for WtW voucher programs if the housing agency (HA) demonstrates that complying with the targeting rule for WtW voucher admissions would interfere with the objectives of the WtWV program.[2] In addition, housing agencies that operate a WtW voucher program may terminate rental assistance if a family violates obligations established by the housing agency under the WtW voucher program, such as work requirements or requirements to participate in employment and training programs. Under regular HCV rules a family can be terminated from rental assistance only for fraudulent or criminal behavior or after eviction by the landlord for a serious lease violation.[3] However, none of the HAs included in the evaluation has implemented such termination policies.[4]

Other than the differences just described, the rental assistance provided through a WtW voucher is the same as that available through a regular voucher. Participants may use the voucher to rent a housing unit of their choice in the private rental market as long as it meets HUD's Housing Quality Standards (HQS) and has a rent that is reasonable compared with the rents of unassisted units in the same housing market. The voucher assistance subsidizes the monthly rent for the unit, and the value of the subsidy is the lesser of the payment standard established by the HA or the unit's actual rent minus 30 percent of the family's adjusted monthly income.[5]

The program model envisioned by the Congress in the statute, by HUD in its implementing regulations, and by the sites in their funding applications called for a two-part effort to provide housing assistance geared to promoting the self-sufficiency of welfare recipients. First, the program was to target housing vouchers to welfare recipients whose efforts to achieve self-sufficiency would benefit from housing assistance. Second, the program was to deliver housing- and employment-related program services to enhance the effectiveness of the voucher. Both components of this effort

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[2] Such an exception was requested only by one evaluation site, Fresno, where the HA believed the income targeting rules severely impinged on the ability to serve underemployed TANF recipients. The Fresno request was approved. In addition to income eligibility, the housing authorities also conduct criminal background checks. Some require that an applicant have no felony convictions within the previous five years, while others require that there be no drug-related convictions, regardless of timing. Finally, the housing authorities in the study also require that applicants not owe any back payments of rent if they lived in public housing in the past.

[3] 24 CFR Parts 888 and 982 "Section 8 Tenant-Based Assistance; Statutory Merger of Section 8 Certificate and Voucher Programs; Housing Choice Voucher Program; Final Rule". Federal Register, October 21, 1999. 24 CFR 982.552(c) (1) (x).

[4] Other housing authorities nationwide, however, appear to be terminating some participants for noncompliance with WtW-related work requirements or other family obligations. Quadel (2002) reports that:

> "While Quadel cannot determine the number of terminations that have occurred due to failure to meet WtW family obligations, we can estimate that about 50 percent of the PHAs with WtW family obligations have terminated families for failure to meet these WtW family obligations."

[5] Payment standards are adjusted for the number of bedrooms in the unit. The actual rent includes an estimate of the cost of utilities paid for by the tenant.

were to involve new partnering arrangements between housing authorities and TANF agencies, plus a coupling of housing- and employment-related program services with the WtW voucher.

However, HAs have achieved only part of this vision. It appears that interagency partnering between the HA and TANF agency or the agency administering welfare to work employment and training grants has been limited. This may be in part because of restrictions on the time allowed for HAs to lease their allotment of WtW vouchers. Participating HAs were required by HUD to lease their vouchers within one year of program start-up. Most agencies focused their energies on identifying eligible families and issuing vouchers as quickly as possible, to the exclusion of developing interagency partnerships. As a result, although vouchers have been targeted to eligible families, there has been little effort to select those families for which housing was particularly important for working or increasing earnings. Furthermore, WtWV households for the most part have not received program services beyond those available to TANF (or TANF-eligible) families that receive regular HCV assistance. Therefore, the evaluation is essentially a test of the effects of receiving a housing assistance voucher. This issue is described in more detail in Chapter Two of this report.

1.2 Design of the Evaluation

Research Questions

The fundamental long-term goal of this evaluation is to assess the impacts of receiving a Welfare to Work voucher on improving the housing locations of families with children, on their obtaining and retaining employment, and on their levels of welfare dependency. To assess these program impacts, a large body of data has been collected from a variety of administrative sources. The study also includes qualitative research that gathers information from both families receiving WtW vouchers and control-group members about their housing and employment experiences and their pathways to self-sufficiency.

The evaluation assesses impacts in four primary areas that may be affected by receiving a housing voucher:

- Housing assistance and services;
- Housing mobility and neighborhood environment;
- Employment and earnings; and,
- Other income and services.

Hypothesized Effects of Tenant-based Rental Assistance

In appropriating funding for the WtWV program, Congress sought to provide housing assistance to help eligible families make the transition from welfare to work.[6] HUD further refined the objectives of the evaluation, by posing two major operating hypotheses:[7]

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[6] PL 105-276, October 21, 1998. 112 STAT. 2470.

[7] Request for Task Order Proposal (1999), p.3.

- Adults (and children of working age) in families that receive vouchers are more likely to obtain and retain employment than those in families that do not receive vouchers, and the average income of families that receive voucher will increase. In addition, the quality of jobs obtained or retained by those who receive vouchers will be greater than those who do not receive vouchers.

- Families that receive vouchers are more likely to move to neighborhoods close to existing or prospective employment, employment training services, or public transportation than are families who do not receive vouchers.

There are a number of possible mechanisms through which the housing voucher may affect the economic well being of program participants.

- **Increase in discretionary income.** The direct effect of the voucher is to increase the available discretionary income for the household by freeing up resources that would otherwise be used to pay for rent. Because the voucher limits the family's rent burden (the percentage of income devoted to rent) to about 30 percent, those with previous rent burdens greater than 30 percent now have more income available for other basic living needs. Over a longer term, the additional resources made available through the voucher could stabilize the household's budget, decrease stress, and improve family members' sense of control and ability to plan. This could, in turn, result in increased job search, increased work effort, or advancement to a more demanding and higher paying job.

- **Increase in hours spent not working**. In the short run the voucher may serve to decrease work effort, however, because the voucher permits the pre-existing level of income to be sustained with less work. In addition, the value of the housing subsidy declines as earnings increase. This feature of the voucher subsidy could also serve to decrease work effort. (Under conventional microeconomic theory, both the income effect and the substitution effect of the voucher tend to reduce labor supply.) Increased nonlabor hours may enable parents to reduce their reliance on out-of-home child care and to devote more time to direct supervision of their children's activities. Adults may also use the additional hours or the increased discretionary income to pursue additional education or training.

- **Quality of neighborhood location and housing unit.** Other effects of the voucher could arise through choice of housing location and unit. Although voucher recipients can use the voucher to lease in place, vouchers often are used to move to a new location. This can improve the quality of the voucher holder's neighborhood location or the quality of the housing unit. For those who use the voucher to move, the new location may be more convenient to jobs or training. Or the new location could be closer to childcare and transportation that would facilitate finding or retaining employment. A move to an area with higher employment rates and faster job growth may provide opportunities for jobs with higher wages. Finally, community norms in a new neighborhood may be more supportive of work and less supportive of public assistance, and this might increase job search and employment.

It is also important to know whether vouchers promote mobility. To the extent that voucher holders lease in place, such tenant-based assistance will tend to have the same effects as an income transfer.[8]

Site Selection and Sample Enrollment

The WtWV evaluation is being conducted in six locations that were selected in early 2000. The study sites and number of WtW vouchers awarded are:

- Atlanta, Georgia (450 vouchers)
- Augusta, Georgia (700 vouchers)
- Fresno, California (City and County) (1,400 vouchers)
- Houston, Texas (700 vouchers)
- Los Angeles, California (700 vouchers)
- Spokane, Washington (700 vouchers)

Site selection for the WtW voucher evaluation focused on choosing sites that were reasonably representative of the WtW voucher program and that offered a suitable environment in which to conduct the experimental evaluation. Selection was, necessarily, a judgmental process.

In October 1999, HUD awarded 121 voucher allocations to 129 local housing authorities (HAs), Indian tribes, and tribally designated housing entities (TDHEs) to implement the WtWV program. Among the 121 grants were eight joint applications in which two or more housing agencies partnered to submit one application. With the exception of eight sites for which set-asides were provided in the law, the awards were made competitively, based on the strength of program applications submitted by the HAs.[9] Among the 121 allocations, 49 agencies received at least 450 vouchers, the threshold established for consideration for the evaluation. Of the 49 potential evaluation sites, 23 volunteered to participate in the evaluation as part of their application for program funds.[10]

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[8] Two recent studies using nonexperimental research methods explore factors that contribute to increased employment among welfare recipients. These studies help to illuminate key questions of interest about the relationship between housing assistance, housing location, and employment, but are unable to assess the impacts of housing assistance and housing location on employment as is possible through this experiment. Allard and Danziger (2003) explored the relationship between proximity to jobs and employment among recipients of welfare and found that greater proximity to employment opportunities is associated with a higher probability of working and of leaving welfare in the three-county Detroit metropolitan area. Bania *et al.* (2003) explored labor market outcomes for recipients of rental assistance vouchers, residents of public housing, and residents of project-based Section 8 properties. They found no difference in employment experiences among recipients of various types of housing assistance but did find differences depending on neighborhood characteristics.

[9] As of September 2002, there were 132 agencies implementing the WtWV program, including eight state agencies. The number of agencies has increased over time because some vouchers administered by state HAs have been transferred to local contract administrators. This is reported in Quadel Consulting Corporation, "Welfare to Work Voucher Program: Final Report," September 30, 2002.

[10] In accordance with guidance from HUD, only those agencies that volunteered to participate in the evaluation were considered.

An important consideration in selecting sites was to ensure, to the extent possible, that the experimental contrast established by random assignment could be preserved over time. Given that individuals assigned to the control group would remain on the HA's waiting list for regular voucher assistance, it was important to select sites where the expected likelihood of control group members receiving regular voucher assistance was low.[11] To assess this likelihood, we first considered each site's proposed strategy for recruiting WtW families. According to their applications, nearly all sites planned to draw most WtW families from the current HCV waiting list. This meant that families identified as eligible for WtW vouchers and assigned to the control group would retain their position on the HCV waiting list. We therefore examined both the *size* of the existing waiting list and the *estimated proportion* of WtW-eligible families currently on the list, looking for sites in which less than half of the current waiting list was estimated to be eligible to receive a WtW voucher. This was meant to ensure that the majority of any new vouchers made available outside the WtW program would go to non-WtW eligibles – thereby reducing the chances of controls receiving such vouchers.

A description of the characteristics of each of the evaluation sites is provided in Chapter Two.

Recruitment of Research Sample

As described above, to be eligible to receive a WtW voucher families had to be current or former TANF recipients or eligible for TANF benefits, as well as meeting the standard HCV eligibility requirements. The families could not be recipients of tenant-based assistance at the time of application (though they could have been receiving other forms of housing assistance), and the housing authority had to determine that the housing assistance provided through the WtW voucher program was critical to the families' ability to obtain or retain employment.

In some cases, the evaluation sites developed more targeted eligibility criteria within the framework of the TANF categories. For example, in Fresno and Los Angeles the housing authorities and their partnering TANF agencies required that applicants be working in order to be eligible for the program. (As described below, Fresno dropped this work requirement for the final cohort of WtW applicants.) In Augusta, applicants were required to be in compliance with their TANF work and services plans at the time of application or be expected to come into compliance with this plan within 30 days. In Spokane, all applicants were required to have completed an Individual Responsibility Plan with their TANF caseworker.

All of the evaluation sites except Augusta targeted only current and former TANF recipients, since these families could be readily identified in TANF caseload systems. The TANF-*eligible* population was considered more difficult to identify and was not included as a target group. In Augusta, by contrast, the TANF-eligible families *were* identified. The names of families on the HCV waiting list were submitted to the local TANF agency for eligibility certification. TANF staff completed a certification form for each family that indicated current or former TANF status or TANF eligibility.

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[11] Although control group members were precluded from receiving a WtW voucher, it was deemed unethical to remove these families from the waiting list for regular vouchers or to prevent them from receiving such assistance. Our analytic treatment of controls who received regular vouchers ("crossovers") is discussed later in this chapter and in Appendix A.

TANF eligibility was determined by whether families who were not current or former TANF recipients were receiving Medicaid or Food Stamps.

Although HUD specified that WtWV housing assistance be determined to be critical to obtaining and retaining employment, the mechanisms for implementing this additional eligibility criterion were left to each housing authority. Houston and Los Angeles proposed specific procedures for assessing critical need on an individual applicant basis but did not actually implement them. Instead of conducting individual assessments of critical need, the sites asserted that low-income persons currently or previously receiving TANF, by definition, have a critical need for stable, affordable housing to obtain or retain employment. Therefore, except in Augusta, the need was not evaluated on a case-by-case basis,[12] but was assumed for all applicants who met the current or former TANF criteria. This is consistent with findings from a study of the early implementation of the WtW voucher program and with the findings reported in a September 2002 report by WtWV program technical assistance providers. [13]

Random Assignment Procedures

Random assignment was initiated in April 2000 and was completed in May 2001. Start and end-dates for random assignment and sample sizes for each site are shown in Exhibit 1.1.

Exhibit 1.1
Random Assignment Period

Site	Random Assignment Period	Total Sample Size
Atlanta	June–September 2000	1,134
Augusta	June–November 2000	759
Fresno	April–June 2000	2,622
Houston	April–June 2000	2,021
Los Angeles	April–May 2001	1,047
Spokane	May–December 2000	1,149
Total		8,732

The random assignment procedures were tailored by site to avoid disruption of program operations and undue burden on HA staff. The WtWV study sites used four different sources for identifying potential participants:

- some identified current or former TANF recipients on the HA's HCV waiting list;

[12] On the certification form completed by TANF staff for every applicant in Augusta, an item on the form was "housing assistance is critical for obtaining or retaining employment." Augusta HA staff reported that this box was checked for all certified applicants.

[13] See Smith and Johnson (2000). That study reported that few of the 13 sites examined planned to assess critical need for housing on a case-by-case basis. See also Quadel Consulting Corporation, "Welfare to Work Voucher Program: Final Report," September 30, 2002.

- some requested lists of current or former TANF recipients from the TANF agency, without regard to whether they were currently on the HA's HCV waiting list;

- some took individual referrals from TANF staff or local nonprofit staff; and

- one conducted mass outreach to the community as a whole using public service announcements on the radio.

In each case, the HAs relied on the TANF agency to identify those individuals who met the HA's eligibility requirements for current or recent TANF receipt and for compliance with TANF requirements. If the TANF agency was not the original source of the list of potential participants, the HA sent the list to the TANF agency for review.

Once a list of potential participants was generated, the HA sent out a letter to all persons on the list, informing them of the availability of WtW vouchers and inviting them to an orientation meeting to learn more about the program and find out if they qualified for a voucher.[14] At the WtWV orientation meeting, HA staff performed any eligibility checks that had not been done before the invitations went out; a small number of ineligibles were screened out at this point. The staff then described the WtW vouchers and explained the eligibility criteria for receiving them. They explained that they expected more applications than the available number of vouchers and that, among eligible applicants, those to receive vouchers were chosen randomly. Those who wished to apply for a voucher signed a Participation Agreement, completed the HCV application materials, and furnished any additional information needed to determine their eligibility. In the Participation Agreement, the applicants acknowledged that they understood that vouchers would be awarded by lottery, agreed to complete a baseline survey, and gave permission to the researchers to access their records at various government agencies.

During the orientation session, and prior to random assignment, the applicants also completed a baseline survey, used to collect information on the applicant's characteristics and composition of the applicant's household. In Houston, Fresno, Los Angeles, and the large group sessions in Atlanta, the survey was completed as a group, with an evaluation staff member reading the questions and the applicants filling in their answers. In Atlanta, Augusta, and Spokane, the baseline form was self-administered, with evaluation staff available to assist applicants with questions or problems.

Random assignment was incorporated into the orientation sessions toward the end, to ensure that only eligible applicants were included.[15] Two principal methods of random assignment were used,

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[14] In Los Angeles, the letter was sent by the TANF agency, which also hosted the orientation meetings and performed random assignment.

[15] In most evaluation sites, random assignment was conducted before criminal background checks of the applicants had been completed, because those checks take several days and the HA wanted to issue vouchers at the orientation meeting. Based on information from HA staff, we believe the proportion of applicants who failed these checks to be small, ranging from less than 1 percent to perhaps 4 percent across sites. We expect this to have a negligible effect on the results of the evaluation. In the analysis, the adjustment for families who fail to lease-up will also remove the influence of these ineligibles on the impact estimates.

depending on the size of the orientation groups and other local considerations. Individual random assignment was used in Spokane, Augusta, and the initial sessions in Atlanta. In Fresno, Houston, Los Angeles, and Atlanta's large-group sessions, the size of the orientation sessions made the use of individual random assignment impractical. To handle the volume of assignments in these sites, Abt Associates developed a random assignment approach based on the list of attendees at the orientation meetings.

1.3 Data Sources

The remaining sections of this chapter provide technical details regarding the data and analytic techniques used to assess the impacts of the WtWV program. Several sources of data have been used in this analysis. This section gives an overview of each type of data.

Baseline Survey
A baseline survey was administered to all sample members immediately prior to random assignment. The information collected from this survey was used for several purposes:

- participant demographic characteristics used to describe and stratify the sample;
- baseline information used as part of the impact analysis;
- contact information (for up to three friends or relatives) used for tracking sample members; and
- participant identifiers used to extract administrative records.

The survey collected baseline information on employment status, satisfaction with the housing unit and neighborhood, receipt of public assistance, and household composition. Abt survey staff reviewed the baseline forms on-site for completeness and accuracy and then, at the end of each intake session, sent them to a central location for entry into data systems. Data files generated at the time of random assignment included a tracking file for logging in the receipt of each completed questionnaire and the agreement form. (The letter form provided the individual's consent to participate in the WtWV demonstration, and explained that vouchers were to be distributed randomly to some, but not all, participants.)

Unemployment Insurance Wage Records
To measure quarterly earnings and employment rates, we collected employer-reported earnings records from the four states included in the WtWV evaluation. Quarterly wage records, provided by employers to each state's employment security agency under the requirements of the unemployment insurance (UI) system, were collected for members of the research sample, both treatment and controls, from one year prior to random assignment through the July-September 2002 quarter.

TANF Data Files
To measure the effects of the WtWV program on welfare participation, we collected information on the receipt of TANF and food stamp benefits from state or local welfare agencies. The data were

obtained for a time period beginning 12 months prior to random assignment and extending through September 2002. Detailed monthly benefit data were collected that allowed us to construct a number of outcome measures for each of these two programs – e.g., average quarterly benefit, number of quarters of benefit receipt, total benefits received during the follow-up period, and number and duration of spells of welfare receipt during the follow-up period. They were also used to identify families who were TANF or food stamp recipients prior to random assignment.

MTCS Data Files

Data from HUD's Multifamily Tenant Characteristics System (MTCS) were collected in three extracts: May and December 2001 and September 2002. These data were used to monitor the receipt of housing assistance through the Housing Choice Voucher and public housing programs for sample members in both the treatment and control groups. This information is recorded by HA staff on HUD forms 50058 and is transmitted periodically to HUD.

The MTCS data were used for several purposes:

- To gather information for sample members who have moved out of the jurisdiction of their HA at intake but may still be receiving housing assistance or services from other HAs;

- To determine if any control group members received a Housing Choice Voucher (or moved into public housing) after random assignment;

- To support locational tracking of the sample (for instance, for individuals who left TANF assistance and changed their residence after random assignment, but received housing assistance or services at their new location.)

TRACS Data Files

In addition to HCVs and public housing, HUD provides housing assistance to low-income families through contracts with property owners under the project-based Section 8 program. Information regarding households living in Section 8 projects is reported to HUD by property owners on HUD form 50059 and is maintained by HUD in the Tenant Rental Assistance Certification System (TRACS). Because some members of the WtWV research sample may have received assistance through this program during the follow-up period, we collected a September 2002 extract of TRACS data from HUD and used it to identify sample members who had received project-based assistance.

2000 Census Data

The analysis of former and current neighborhood quality for treatment and control group members was based on tract-level data from the 2000 Census. Census data, commonly used as a proxy to describe neighborhood-level characteristics, are particularly well suited for this analysis as the WtWV evaluation began in early 2000 and random assignment was completed in May 2001. Data from the Census Bureau's Summary File 3 were assembled for the census tracts in which participants resided during the follow-up period by geocoding the addresses collected at the time of random assignment and the updated addresses gathered from MTCS, TRACS, and TANF data, and from the participant tracking efforts. Measures of neighborhood quality based on Census data included:

- racial and ethnic composition;
- percentage of persons living in poverty;
- whether the census tract can be classified as low poverty (less than 10 percent of persons in the census tract are below the poverty line); medium poverty (between 10 and 40 percent of persons are living in poverty; or high poverty (more than 40 percent of persons in the census tract are living in poverty);
- percentage of civilian labor force that is employed;
- level of educational attainment and school drop-out rates;
- percentage of female-headed households;
- average commute for employed adults;
- average rent burden;
- median household income; and
- percentage of households with public assistance.

Local Housing and Employment Data

In addition to the tract-level data from the 2000 Census, we also obtained data for the cities and metropolitan areas in which the study sites are located, from demographic profiles available from the 2000 Census. These data included information on total population, incidence of poverty, median household incomes, and housing vacancy rates. We also obtained local area labor market information from Bureau of Labor Statistics published reports.

Interviews with Program Staff and Service Providers

To monitor the implementation and operations of the WtWV programs in the research sites, we conducted interviews with staff from the local HAs, TANF agencies, and other partner organizations. We conducted interviews both in person during site visits and by telephone.

Interviews with Participants

To collect detailed information about the employment and housing experiences of a small group of WtWV participants, we conducted in person interviews with 75 individuals across the six sites. In conjunction with these interviews we also assessed the characteristics of the neighborhoods immediately surrounding the participants' residences, using interviewers' summary descriptions of the neighborhood based on visual assessments. The results of these interviews and neighborhood assessments were provided to HUD in 2002 in a separate research report that described the patterns of housing and employment experiences among the interview respondents.[16] For the present report, these findings are used to help interpret the impact estimates.

[16] See Turnham, *et al.* (2002).

Impact Estimates: Intent-to-Treat versus Treatment-on-Treated Estimates

With random assignment, simple differences in means between the treatment and control groups provide unbiased estimates of the impact of an intervention, provided that all treatment group members, and none of the controls, are exposed to the intervention. In practice, both of these conditions are usually violated to some extent. In the present case, some treatment group members failed to lease up with the demonstration voucher, and some controls received, and leased up with, vouchers from the regular HCV program. In the literature, the former are known as "nonparticipants" and the latter are known as "crossovers."

In all of the tables presented in Chapters Three, Four, and Five, we present two sets of estimates – the "intent to treat", or ITT, estimate, and the estimated impact of the "treatment on the treated", or TOT estimate. The ITT estimates measure the impact of the treatment on the entire treatment group, which the program *intended* to assist, regardless of whether individual members of the treatment group *actually* received the treatment (and whether control group members may have received the treatment). Simply stated, the ITT estimates show the difference in outcomes between the entire treatment group and the entire control group, including those treatment group members who never used their voucher and those control group members who did manage to obtain and use a voucher.

The TOT ("treatment on treated") impacts present the impact of the treatment on *those treatment group members who were actually treated* – those treatment group members who received a voucher and successfully leased up – relative to no voucher assistance. The TOT impacts thus adjust for treatment group member nonparticipation in the program. The TOT impacts also adjust for the fact that some control group members did, in fact, come off the HCV waiting list to receive a voucher and did lease up. Thus, the TOT estimates control for both treatment group nonparticipation and crossovers in the control group. The TOT impacts estimated in this report also take advantage of the fact that we know exactly when each treatment or control group member leased up; we thus can make an econometric adjustment that controls for the amount of time any given control group member was, in fact, a crossover. Simply stated, the TOT estimates show the difference in outcomes between treatment group members who leased up and control group members who did not receive a voucher.

Measuring Impacts

Measuring impacts involved estimating the following equation:

(1.1) $$O_t = \gamma_0 + \Sigma\gamma_k X_{kt} + \delta T_t + \nu_t \,,$$

where O_t is the outcome in period t, $\gamma_{0\ldots k}$ are coefficients on the matrix X_t of covariates (including an intercept term), δ is the coefficient on the treatment term T_t, and ν_t is a random error term. The treatment term is a dichotomous variable taking the value 1 if a subject was randomly assigned to the treatment group, and 0 if she was not.[17] The ITT estimate in any equation, then, is just the coefficient δ.

[17] As we were using observation weighting to create a hypothetical 1:1 treatment-control ratio in the presence of changing random assignment ratios over time, the estimation process is more complicated than ordinary least-squares. Models were fit using Generalized Linear Modeling (GLM) and Huber's "sandwich"

We included the following covariates, measured in the baseline survey, in every regression:

- income earned in the past year (categories: $0; $1 to $4,999; $5,000 to $9,999; $10,000 to $14,999; $15,000 to $19,999; $20,000 to $24,999; $25,000 to $29,999; and $30,000 or more);
- whether the respondent was working at baseline;
- the respondent's reservation wage per hour, a variable asked only of persons who were not working at baseline (categories: $3 to $5.99; $6 to $8.99; $9 to $12.99; $13 to $15.99; not asked because person was working);
- education variables (whether respondent was in school; whether respondent had a high school diploma; whether respondent had a GED);
- training variables (respondent was enrolled in a job training program; respondent was enrolled in a job training program but had not yet started training; respondent was not enrolled in a training program);
- race/ethnicity (respondent was white non-Hispanic; black non-Hispanic; Hispanic; Other non-Hispanic; or missing, in mutually exclusive categories);
- gender (male, female, missing);
- whether the respondent had, at baseline, a car that ran, and whether the respondent had a current driver's license;
- whether the respondent was on TANF at baseline;
- whether the respondent had ever been a recipient of TANF/AFDC;
- for respondents on TANF at baseline, the amount of time until TANF benefits were due to expire (categories: within 6 months; 6 to 12 months; 12 to 18 months; more than 18 months);
- whether the respondent was on food stamps, on SSI, or on Medicaid at baseline;
- whether the respondent was ever married;
- whether the respondent had any dependent children;
- age of the youngest person in the household (age categories: less than 6 years; 6 years or more but less than 18; 18 or older)

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variance estimators, which produce consistent estimates of coefficient standard errors even with complex weighting.

- household size (categories: one person; two people; three people; four people; five people; six people; seven people; eight or more people);

- respondent's age (categories: 24 years or less; 25 to 34 years; 35 to 44 years; 45 years or older);

- the ratio of monthly household rent payment to monthly household income;

- whether the respondent desired to move for employment reasons;

- respondent's baseline housing situation (categories: respondent rents or owns his/her own apartment or house; respondent lives with friends or relatives; respondent is in public or other assisted housing; respondent lives in a homeless shelter or transitional housing)

- whether the respondent was a frequent mover (had moved more than three times in the past five years);

- site in which the respondent lived (Atlanta, Augusta, Fresno, Houston, Los Angeles, or Spokane); and

- the monthly Metropolitan Statistical Area (MSA)-level unemployment rate for the site where the respondent lived, averaged over the twelve months prior to the respondent's random assignment date.

In addition to this set of common covariates, the regressions for which results are presented in Chapters Three, Four, and Five also controlled for baseline values of the outcome variable. In Chapter Three, which presents impacts on locational characteristics, all regressions included the baseline value of the particular outcome variable in question. In Chapter Four, which presents impacts on employment and earnings, all regressions included an indicator for whether the respondent had ever been employed in the four quarters prior to random assignment and the total amount of UI earnings in the four quarters prior to random assignment. In Chapter Five, which presents impacts on public assistance (TANF and food stamps), all regressions included an indicator for whether the respondent had ever received TANF in the four quarters prior to random assignment; an indicator for whether the respondent had ever received Food Stamps in the four quarters prior to random assignment; the total amount of TANF benefits received in the four quarters prior to random assignment; and the total amount of Food Stamp benefits received in the four quarters prior to random assignment. Some of these baseline values of the administrative outcome variables were highly correlated with certain survey questions. Nevertheless, they were not perfectly collinear and provided valuable data from the same source as the outcome variables.

The ITT estimates derived with Equation 1.1, along with information about lease-up rates, form the basis for the "treatment on the treated" (TOT) impact estimates that are also presented in the tables in Chapters Three, Four, and Five.[18] The formulas for calculating the TOT estimates are presented in Appendix A.

[18] For a more detailed discussion, see Chapter Two of Mills *et al*. (2003).

The TOT estimates are based on the assumptions that (a) the intervention had no effect on families who did not receive vouchers and (b) in any given quarter after their receipt, vouchers had the same effect on controls who received them as on treatment group members who received them (see Appendix A for details). Estimation of the TOT impacts takes account of the fact that, in general, controls who received regular vouchers received them later than the treatment group members received WtW vouchers.[19] TOT estimates will generally be larger than the ITT estimate for the same outcome, because both nonparticipants and crossovers "dilute" the estimated impact – the former because the intervention can be expected to have little or no effect on those who do not receive it and the latter because controls' receipt of the intervention reduces the treatment-control difference in outcomes. There is no predictable relationship between the statistical significance of the ITT estimates and that of the TOT estimates, however.

Subgroup Impacts

The treatment might be expected to affect some groups of participants differently, as barriers to relocation or lease-up, search costs, and other factors that might affect the outcomes of interest vary among individuals with different circumstances. For example, we can expect that participants with young children may be likely to lease in place and to use their increased income to spend more time at home with their families. In contrast, participants with older children may find it easier to use their voucher to move to a better neighborhood, and perhaps to seek improved employment opportunities. Therefore, it will be helpful to examine the effects of program participation on these two groups separately. Groups defined by characteristics that we think might influence how participants respond to the program are called subgroups. Subgroups have been defined with respect to baseline characteristics such as ethnicity, the age of children, whether respondents indicated that they desired to move at baseline, and baseline levels of earnings, education, and reservation wages.[20] Subgroup impacts are obtained simply by estimating the regression equations (Equation 1.1 and the TOT estimates) on data restricted to respondents who are in a particular subgroup. In Chapters Three, Four, and Five, we present treatment impacts (both ITT and TOT) for a set of subgroups that were expected to have varying sensitivity to the treatment.

It should be noted that some of our subgroups are quite small; because statistical precision is a function in part of sample size, it is possible that a subgroup could experience genuine program impacts, yet the estimated impacts for that subgroup will not be statistically significant. Based on our assumptions about the expected size of treatment effects, the extent of non-participation among treatment group members, and the extent of cross-over among controls, we have made estimates of the Minimum Detectable Effects that could be identified for subgroups of different sizes, assuming standard levels of statistical power. These prior estimates indicated that, for a subgroup that contained at least one quarter of the sample, we could expect to detect a statistically significant impact on earnings (for example) if the true treatment impact was at least 20 percent. Smaller

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[19] The adjustment used to derive the TOT estimates is a generalization of the well-known "Bloom adjustment" (see Bloom (1984) and Bloom *et al.* (1993)), developed specifically for this study. The Bloom adjustment requires that crossovers receive the intervention at the same time as treatment group members; the method used here allows any time pattern of receipt of vouchers in both groups.

[20] The "reservation wage" is the lowest wage rate at which an individual will accept a job. Sample members were asked their reservation wage in the baseline survey.

impacts for a subgroup of this size would not be detected as statistically significant. For a subgroup that was smaller than one quarter of the sample, impacts on earnings would have to be *even larger* than 20 percent in order to be detected as statistically significant. In fact, as can be seen below in Exhibit 1.2, several of our subgroups do make up fairly small fractions of the total sample.

Because lack of statistical significance may reflect small sample size rather than an absence of true impacts, we are careful throughout this report to interpret the subgroup impacts accordingly. While statistically significant impacts for a given subgroup can be taken as evidence that that subgroup *did* experience program impacts, the reverse is not necessarily true. When we find statistically *insignificant* impacts for particular subgroups – particularly for the smaller subgroups – we do not take this finding as definitive evidence that the subgroup was *unaffected* by the treatment. Rather, we interpret this finding as simply indicating that there is no definitive evidence that the subgroup experienced program impacts.

1.4 Baseline Characteristics of the Research Sample

A total of 8,732 individuals were randomly assigned across the six evaluation sites. Complete baseline survey data were obtained for 8,573. The baseline characteristics of those randomly assigned are shown in Exhibit 1.2. The sample is predominantly female, never married, and between the ages of 18 and 44, with the average age 30.7. Nearly half of the sample is African American, while 21 percent are Hispanic and 20 percent are Caucasian. The majority of sample members either graduated from high school (40 percent) or had a GED (17 percent), and at the time of random assignment 16 percent were enrolled in some type of school or training program. The average household included four persons.

With respect to employment experiences, 44 percent said that they were working for pay at baseline, and another 12 percent were working for TANF benefits. Among those working at the time of baseline, the average hourly wage was $6.96. Most individuals had some work experience in the past, with 80 percent reporting having worked at some time for pay.

The baseline survey also collected information about housing arrangements at baseline. Survey respondents reported spending $314 per month for rent on average, and a substantial majority (88 percent) said that they wanted to move at the time of random assignment. The most common type of housing arrangement was renting an unsubsidized apartment or house (56 percent), followed by living with friends or relatives (26 percent). Altogether nearly 13 percent reported receiving some type of housing assistance at baseline (public housing or project-based assisted housing), and 2 percent reported living in a homeless shelter or transitional housing. Approximately one-third of the sample members reported being somewhat or very dissatisfied with their neighborhoods at the time of random assignment, most likely reflecting the large proportion who expressed a desire to move. Seventeen percent said they were very satisfied with their baseline neighborhood, 23 percent were somewhat satisfied, and 28 percent were neither satisfied nor dissatisfied.

Exhibit 1.2
Baseline Characteristics of WtWV Research Sample

Characteristic	All Sample Members Combined (N=8,573)
Study Site	
Atlanta	12.9%
Augusta	8.8
Fresno	29.9
Houston	23.0
Los Angeles	12.1
Spokane	13.3
Gender	
Male	7.7%
Female	91.8
Missing	0.5
Marital Status	
Never married	54.0%
Married	16.5
Separated/Divorced	23.3
Widowed	1.3
Missing	5.0
Age at Random Assignment	
<18	0.3%
18-24	30.2
25-34	38.1
35-44	23.4
45-54	6.9
55+	1.1
Mean age	30.7
Race/ethnicity	
White, non-Hispanic	19.6%
Black, non-Hispanic	49.8
Hispanic	21.4
Other	8.2
Missing	1.0
Educational Attainment	
HS Graduate	39.7%
GED	17.2
Neither HS Diploma Nor GED	35.4
Missing	7.6
Enrolled in School at Baseline	
Yes	16.4%
No	79.1
Missing	4.5

Exhibit 1.2 *(Continued)*
Baseline Characteristics of WtWV Research Sample

Characteristic	All Sample Members Combined (N=8,573)
Average size of household	4.0
Employment status at baseline	
Working for pay:	
Yes	44.5%
No	51.9
Missing	3.6
Not working, looking for work:	
Yes	54.4%
No	38.2
Missing	7.4
Working for TANF benefits:	
Yes	11.8%
No	80.3
Missing	8.0
Attending school:	
Yes	16.8%
No	75.2
Missing	8.0
Keeping house/caring for children:	
Yes	54.4%
No	38.2
Missing	7.4
Doing something else:	
Yes	7.8%
No	83.4
Missing	8.8
Average hourly wage[21]	$6.96
Ever worked for pay?	
Yes	80.3%
No	19.3
Missing	0.5

[21] A total of 3,375 survey respondents reported their wages on a per hour basis. Among the remaining respondents, 16 reported their earnings at their job on a per day basis, 85 reported their earnings on a per week basis, 102 reported their earnings every two weeks, 99 reported their earnings per month, and 3 reported their yearly earnings. Respondents were also asked to specify the number of hours that they usually work in a typical week so that their hourly wages could be determined. To compute the hourly wages of respondents who reported their earnings on a per day basis, it was assumed that they work five days per week. It was also assumed that respondents who reported their earnings on a yearly basis worked 52 weeks per year. Valid hourly wages were computed for 14 respondents who were paid on a per day basis, 80 respondents who reported their earnings on a per week basis, 97 respondents who were paid every two weeks, 88 respondents who reported monthly earnings, and 3 respondents who reported their earnings on a per year basis.

Exhibit 1.2 *(Continued)*
Baseline Characteristics of WtWV Research Sample

Characteristic	All Sample Members Combined (N=8,573)
Type of housing at baseline (self reported)	
Rent apartment or house	56.3%
Own apartment or house	0.7
Living with friends or relatives	25.8
Public housing	7.0
Assisted housing	5.7
Homeless shelter or transitional housing	1.9
Other	1.5
Don't know	0.0
Missing	1.0
Average monthly rent at baseline	$314.43
Desire to move at baseline?	
Yes	88.0%
No	11.9
Don't know	0.0
Missing	0.2
Satisfaction with neighborhood at baseline	
Very satisfied	16.8%
Somewhat satisfied	22.8
Neither satisfied nor dissatisfied	27.7
Somewhat dissatisfied	15.7
Very dissatisfied	16.4
Missing	0.7
Transportation	
Valid driver's license:	
Yes	60.2%
No	39.5
Don't know	0.0
Missing	0.3
Access to a car that runs:	
Yes	40.8
No	58.9
Missing	0.4
Childcare responsibilities	
Have responsibility for children in the home:	
Yes	90.1%
No[a]	9.5
Missing	0.4

Exhibit 1.2 *(Continued)*
Baseline Characteristics of WtWV Research Sample

Characteristic	All Sample Members Combined (N=8,573)
Receipt of TANF benefits at baseline	
Receiving TANF at baseline:	
Yes	80.3%
No	19.6
Missing	0.2
Other sources of household income at baseline	
Food stamps:	
Yes	85.7%
No	13.8
Missing	0.5
SSI:	
Yes	11.2
No	85.4
Missing	3.5
Child support:	
Yes	16.0
No	80.5
Missing	3.5
WIC:	
Yes	39.0
No	58.3
Missing	2.8
Unemployment compensation:	
Yes	2.5
No	93.4
Missing	4.1
Social Security disability or survivor's benefits:	
Yes	6.1
No	90.1
Missing	3.8

Source: Baseline Survey
Note: a. Either no children in the home or others have principal responsibility for children in the home.

The baseline survey also asked questions about transportation and childcare responsibilities, potential barriers to employment. Well over half of all respondents (60 percent) reported having a valid driver's license, but only 41 percent said that they had access to a car that runs, suggesting that transportation issues could limit employment opportunities for some sample members. A full 90 percent of sample members reported having responsibility for children in the home, an indication that access to childcare could be an important factor influencing employment experiences.

Given the targeting criteria for the WtWV program, it is not surprising that the overwhelming majority (80 percent) reported receiving TANF cash assistance at the time of baseline. Other sources of household income included Food stamps (received by 85 percent), SSI (12 percent), Child support

(16 percent), and Supplemental Feeding Program for Women, Infants, and Children (WIC, 39 percent). Unemployment compensation (3 percent) and social security benefits (6 percent) were less common sources of household income.

1.5 Organization of the Report

The remainder of the report is organized as follows. Chapter Two describes the implementation of the WtWV program in the evaluation sites and the extent to which sample members have been successful in using vouchers to lease a housing unit. Chapter Three presents the results of the analysis of impacts of the WtWV program on the characteristics of program participants' neighborhood, and Chapter Four presents the findings of the analysis of impacts on employment and earnings. Chapter Five describes the impacts of the WtWV program on receipt of public assistance, and Chapter Six presents conclusions.

Chapter Two
Implementation of the Welfare to Work Voucher Program

This chapter presents background information on the sites participating in the WtW Voucher study and details about the implementation of the WtW voucher program in each of the sites. The information on program implementation is useful not only for understanding how the program was operated in the evaluation sites, but also to define the intervention being tested in the evaluation. Based on our assessment of program operations in the evaluation sites, we have concluded that the intervention in place and tested by the evaluation is the receipt of the voucher itself, since specialized services were not systematically offered to WtWV participants. The chapter concludes with an assessment of the extent to which participants in the WtWV program were successful in using their voucher to lease a suitable housing unit, and the characteristics of treatment group members that are associated with successful lease-up. This assessment also examines the degree to which the WtW voucher was used to move to a new location or to lease in place. Finally, we also present findings on the extent to which participants in the research sample received other types of housing assistance (public housing or project-based Section 8 assistance) during the follow-up period and on how often control group members received and used regular vouchers from the HCV program.

2.1 Characteristics of the Study Sites

The six study sites represent a range of geographic locations and housing and labor market characteristics. To provide context for the impact analysis, Exhibit 2.1 shows select demographic, economic, and housing market data for each of the sites, based on the 2000 Census, Bureau of Labor Statistics, and TANF program data. The information is provided for the jurisdiction served by the WtWV program in each of the study sites. In all except one site (Fresno), the program jurisdiction is the corresponding city. In Fresno, the program serves the city and county of Fresno. In Spokane, the housing authority's jurisdiction includes the city of Spokane and three surrounding rural counties, but the agency focused its WtWV program on the city of Spokane.

The six study sites include two of the largest U.S. cities (Los Angeles and Houston), with 2000 populations ranging from 1,953,631 (Houston) to nearly 3.7 million (Los Angeles). The other four sites are metropolitan areas, with the Fresno site serving an area with 922,516 persons and Atlanta with a 2000 population of 416,474. Augusta and Spokane are medium-sized cities with populations of 310,294 and 195,629. The exhibit also shows how the six sites compare to one another and to the country overall in terms of poverty rate and median income. All of the six sites have 2000 poverty rates greater than the national rate of 12.4 percent. The highest poverty rate was in Atlanta (24.4 percent) and the lowest was in Augusta (15.2 percent). Median household income for the nation overall ($41,994) was higher in 2000 than in any of the study sites. Among the study sites, median household income ranged from $38,436 (Augusta) to $32,273 (Spokane). Similar median household

Exhibit 2.1
Characteristics of Study Sites

Site Name	Atlanta	Augusta	Fresno	Houston	Los Angeles	Spokane	U.S.
Total population	416,474	310,294	922,516	1,953,631	3,694,820	195,629	281,421,906
Percent of pop. in poverty	24.4%	15.2%	22.7%	19.2%	22.1%	15.9%	12.4%
Median household income	$34,770	$38,436	$34,960	$36,616	$36,687	$32,273	$41,994
Homeownership rate	43.7%	65.6%	57.7%	45.8%	38.6%	58.8%	66.2%
Homeowner vacancy rate	4.1%	2.6%	1.6%	1.6%	1.8%	2.4%	1.7%
Rental vacancy rate	7.2%	10.4%	5.4%	8.7%	3.5%	9.4%	6.8%
Annual rate of unemployment for the Metropolitan Statistical Area (MSA)[a]							
2000	3.0	4.6	13.9	4.1	--	5.5	3.9
2001	3.5	5.0	13.5	4.3	5.6	6.6	5.8
2002	--	--	--	--	6.8	--	6.0
Annual rate of unemployment for the City in 2000	9.0	NA	7.1	4.8	5.6	5.7	--
Maximum monthly TANF benefit for a family of 3 (adult and 2 children) in 2000	$280	$280	$626	$201	$626	$546	--

Source: 2000 Census for items other than unemployment rates and monthly TANF benefit levels. Unemployment rates are annual rates for the Metropolitan Statistical Area (MSA) from Bureau of Labor Statistics Local Area Information. Monthly TANF benefits levels are from the U.S. House of Representatives, Committee on Ways and Means, "Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means: The 2000 Greenbook."

[a]For all sites except Los Angeles, random assignment took place in 2000. In Los Angeles, random assignment was conducted in 2001.

incomes were observed in Atlanta and Fresno (nearly $35,000) and in Houston and Los Angeles (nearly $37,000). Homeownership rates varied substantially across the study sites, from a low of 38.6 percent in Los Angeles to a high of 65.6 percent in Augusta, all below the national rate of 66.2 percent.

An important housing market characteristic for the WtWV study is the rental vacancy rate, because it is an indicator of how difficult it might be for voucher recipients to use their vouchers to rent a housing unit. As discussed later in this chapter, there was great site-to-site variation in the extent to which voucher recipients were successful in using the WtW voucher. Areas with lower vacancy rates are considered more difficult housing markets for voucher recipients because there are fewer rental units available. Nationwide, the 2000 Census reported a rental vacancy rate of 6.8 percent. Among the WtWV study sites, we found substantial variation. Los Angeles has the tightest rental market, with a rental vacancy rate of 3.5 percent according to the 2000 Census. In contrast, the looser rental markets in Augusta (10.4 percent vacancy), Spokane (9.4 percent), and Houston (8.7 percent) would appear to offer greater options for voucher recipients.

Although the Census provides an important and uniform measure of rental vacancy across the sites, information about particular segments of the market can be even more illuminating.[22] We conducted interviews with local housing authority staff and HUD Field Office staff to obtain more detailed information about conditions in the local rental housing markets. This information confirmed the overall trends observed in the Census data—that is, Los Angeles had the most difficult or tightest rental market, while Augusta, Spokane, and Houston had the loosest markets. In Atlanta, a market study completed in early 2003 concluded that rental market conditions have softened substantially since the 2000 Census as a result of record rates of rental housing construction and slowing demand for housing.[23] In contrast, a detailed analysis of the rental housing market in Houston revealed that vacancy rates among more affordable units are lower than for the rental market overall (5 percent compared with 8.7 percent at the time of the 2000 Census).[24]

Labor market characteristics of the study sites offer additional context for evaluating the effects of the WtWV program. Areas with higher rates of unemployment indicate more difficult labor markets with fewer job opportunities. Enrollment in the evaluation occurred in 2000 in all sites except Los Angeles, where enrollment took place in 2001. Most of the evaluation sites (four of the six) experienced higher rates of unemployment than the nation during the year of program enrollment.

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22 Local fair market rents (FMR) are set by HUD each year to approximate the average rent at the middle of the market. (In most markets, the FMR is set at the 40th percentile of local rents.) Housing authorities establish a voucher payment standard that is typically between 90 and 110 percent of the FMR. The voucher payment standard establishes the upper bound on the amount of rental subsidy that a program participant can receive. The rental subsidy is the lesser of the payment standard or the actual rent of the unit minus 30 percent of the family's adjusted monthly income. As a result, voucher recipient families can seek housing units at the middle of the housing market. Studies that provide details on vacancy rates in various segments of the rental market thus give more precise information about the tightness of the rental market faced by voucher recipients.

23 U.S. Department of Housing and Urban Development, Georgia State Office. January 16, 2003.

24 Information was reported by HUD Field Office staff in Houston based on analysis conducted by O'Connor and Associates.

The largest difference was in Fresno, with an annual unemployment rate of 13.9 percent in 2000 compared with the national average of 3.9 percent. Atlanta and Los Angeles had lower unemployment rates in the year of enrollment than for the nation overall.

To be eligible for the WtWV program, applicants had to be either current or former TANF recipients or currently eligible to receive TANF benefits. Exhibit 2.1 shows the maximum monthly TANF benefits for a family of three (one adult and two children) in 2000. The highest TANF benefit levels are found in Fresno and Los Angeles ($626), while the lowest benefits are in Houston ($201).

2.2 Implementation of the WtWV Program

The WtWV program envisioned by the Congress in the statute, by HUD in its implementing regulations, and by the sites in their funding applications called for a two-part effort to provide housing assistance geared to promoting the self-sufficiency of welfare recipients. First, the program was to target housing vouchers to welfare recipients whose efforts to achieve self-sufficiency would benefit from housing assistance. Second, the program was to deliver housing- and employment-related program services to enhance the effectiveness of the voucher. Both components of this effort were to involve new partnering arrangements between housing authorities and TANF agencies, plus a coupling of housing- and employment-related program services with the WtW voucher.

In this section, we describe how the WtWV program was implemented at the study sites, to assess the extent to which the original vision was achieved. The description helps us to understand the nature of the intervention at the evaluation sites and the extent to which the WtWV program provided services above and beyond those available to voucher recipients in the regular HCV program. The section focuses on: the degree to which WtWV program operations are conducted separately from the HCV program; organization and staffing of the program; partnerships established with the local TANF agency and other organizations; and services provided to voucher recipients to assist them in locating suitable housing and in obtaining and retaining employment. The information presented here is taken from interviews with WtWV staff in the six housing agencies, local partners, and local TANF agencies. Interviews were conducted by telephone in September 2000, in person during October-December 2001, and again in person in February-March 2003.

Indications are that the six evaluation sites have achieved only part of the original program vision. It appears that interagency partnering (between the PHA and TANF agency) has been limited.[25] As a result, although vouchers have been targeted to eligible welfare families, there has been little effort to select those families for which housing would be particularly important for working or increasing earnings. Except in Fresno, as explained later, WtWV households have generally not received program services beyond those available to TANF (or TANF-eligible) families that receive regular rental assistance. These findings are consistent with information gathered from HUD's Technical Assistance (TA) providers for the WtWV program. The TA providers completed a report in 2002 on the operations of the WtWV program overall. The evaluation sites appear to be operated in a similar manner to the other WtWV sites.[26]

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[25] As described in the sections that follow the Fresno site is an exception to the general pattern.

[26] Quadel Consulting Corporation (2002).

Is the WtWV Program Operated Separately from the HCV Program?

The six study sites reflect a variety of HA types and sizes. The Housing Choice Voucher programs ranged from about 3,800 vouchers in Augusta to more than 43,000 vouchers in Los Angeles.[27] The WtWV programs ranged from 450 vouchers in Atlanta to 1,400 in Fresno.[28] During our site visits we gathered information about how the operations of the WtWV program compare to the regular HCV program. This information is used to assess the extent to which the WtWV program has been implemented as a program distinct from HCV and, in turn, whether the program experiences of WtWV participants are likely to vary from those in the regular HCV program. Exhibit 2.2 displays several aspects of program operation.

Exhibit 2.2
Extent to which WtWV Program Operates Separately from HCV Program

	Atlanta	Augusta	Fresno	Houston	Los Angeles	Spokane
Use separate waiting lists for HCV and WtWV	X		X			X
Separate briefings held for WtWV participants			X		X	X
Different procedures used in recertification for WtWV program	X	X				X
Separate staffing unit established for WtWV program	X		X		X	

Source: Interviews with Housing Authority staff

[27] These figures reflect the size of the voucher programs in February and March 2003, when the most recent site visits were conducted for the study.

[28] In Fresno, the program is being administered jointly by the Housing Authorities of the City and County of Fresno. The two agencies are staffed jointly and each entity was awarded 700 WtW vouchers.

Exhibit 2.3
Role Played by Local TANF Agency

	Atlanta	Augusta	Fresno	Houston	Los Angeles	Spokane
TANF agency's role limited to providing referrals	X	X		X	X	X
TANF agency's role diminished over time	X	X		X	X	X
TANF agency's role has increased over time			X			

Source: Interviews with Housing Authority Staff

To be eligible to receive a WtW voucher, as noted earlier, a participant must be a current or former TANF recipient or currently TANF-eligible. The rules also specify that when a WtW family leaves the program, the WtW voucher must be reissued to another WtW-eligible family. In selecting families to receive a WtW voucher, housing authorities were required to draw program participants from their existing waiting lists. If no WtW-eligible families were on the waiting list, the list could be opened to admit new families. In Chapter One we described the outreach procedures used to identify the families included in the evaluation research sample. During our most recent site visits, in early 2003, we gathered information about the current procedures used to identify WtWV participants when WtW vouchers become available for reissuance through turnover.

Although not required, three of the evaluation sites (Atlanta, Fresno, and Spokane) maintain separate waiting lists for the WtWV and HCV programs. The WtWV waiting lists in these sites include only those families who satisfy the TANF eligibility requirements at the time they are placed on the waiting list. Maintaining separate waiting lists might help ensure that the WtWV eligibility criteria are correctly applied when WtW vouchers become available for re-issuance, since the TANF criteria have been verified for these families. In Los Angeles, where a combined waiting list is maintained for HCV and WtWV, families that have been referred to the housing authority's waiting list by the TANF agency are flagged in the waiting list and are contacted when a WtW voucher becomes available. In Augusta, the agency maintains a combined waiting list. When WtW vouchers are available for reissuance, the housing authority sends lists of families from the waiting list (in order of the date/time of their application to the waiting list) to the TANF agency for verification of their TANF status.

As with the HCV program, housing authorities are required to provide families who are issued a WtW voucher with an oral briefing[29] that provides the following types of information: how the voucher program works; family and owner responsibilities; and where the family may lease a unit, including a

[29] Requirements of the briefing are located at 24CFR 982.301.

dwelling unit outside the PHA jurisdiction. In addition, if a family currently lives in a high poverty census tract, the briefing must explain the advantages of moving to an area that does not have a high concentration of poverty. For WtW voucher recipients, the briefing must include a description of any local obligations of a WtWV recipient and an explanation that failure to meet these obligations is grounds for denial of admission or termination of assistance. We collected information from the evaluation sites about how the briefings are conducted for the WtWV program. In Fresno, Los Angeles, Houston, and Spokane, housing authority staff hold briefings for WtWV participants apart from HCV recipients.[30] In Fresno and Los Angeles, WtWV staff conduct the briefing, while in Spokane staff from the regular voucher program also conduct the WtWV briefing. In Fresno, the briefing for WtWV participants is longer than for the regular program and includes a more detailed discussion of the Family Self-Sufficiency (FSS) program. Participation in FSS is a requirement for WtWV program participants at that site.[31] The Fresno briefing also provides more focus on housing search and the kinds of assistance available to voucher recipients during the housing search process. In Los Angeles, similarly, the WtWV briefing contains a more lengthy discussion of the housing search process than the regular HCV briefing, as well as more details about the resources available to voucher recipients during housing search. In Spokane, WtWV recipients are required to complete an individual action plan that specifies employment goals and planned actions towards reaching the goals. Participants can replace this with the individual responsibility plan that is required by the TANF agency. In Atlanta and Augusta, WtWV participants receive their briefing along with voucher recipients in the HCV program. The content of the briefings is the same for WtWV and HCV voucher recipients.

As in the regular HCV program, HAs are required to reexamine the income and family composition of WtWV families at least annually. The purpose of this annual reexamination is to ensure that the family continues to meet eligibility requirements of the program and may continue to receive rental assistance. In Fresno, Los Angeles, and Houston the same procedures are used in the WtWV and HCV programs for conducting the recertifications. In the other sites, the annual reexaminations are more involved for WtWV participants than for other HCV participants. In Atlanta and Spokane, for example, housing authority staff review the family's compliance with the local TANF program requirements if the family is receiving TANF benefits. Also, in both of these sites, the staff discuss the family's current employment situation and employment goals. In Augusta, a subset of the WtWV participants receives a more extensive recertification, from a case manager who works only with 150 WtWV participants. The case manager reviews the family's employment action plan and identifies whether the family needs any specialized employment or supportive services to achieve the plan. The case manager contacts each WtWV participant every 60 days throughout the year, usually by phone, and also uses the reexamination meeting as an opportunity to discuss these issues in person.

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[30] Note that in Houston families who were randomly assigned and are included in the evaluation received large group briefings at the time of random assignment. This briefing was held separately from the regular HCV briefing. Subsequently, new WtWV participants who joined the program after random assignment was complete received a briefing together with HCV voucher recipients.

[31] As described later, FSS helps participants in the voucher program and residents of public housing to become self-sufficient through education, training, case management, and other supportive services.

Organization and Staffing

We also collected information about the staffing arrangements used to operate the WtWV program. Operating the WtWV program requires that many of the same functions performed in the HCV program also be accomplished, including participant outreach and intake, eligibility determination, voucher issuance, voucher briefings, Housing Quality Standard (HQS) inspections, and annual recertification. Beyond these basic tasks, however, some agencies have developed special activities or functions associated with the WtWV program. In this section we explore the staffing arrangements in place at the six evaluation sites and the implications of these arrangements for providing employment-related services to participants.

We found that staffing arrangements varied according to the level of integration between WtWV staff and regular HCV program staff. In Spokane, staff from the regular voucher program perform functions both for the WtWV program and the HCV program. There is little specialization of WtWV functions. The entire caseload, regardless of type of voucher, is allocated among approximately 10 staff persons who perform intake, briefings, issuance, and recertifications.

A second approach to staffing involves designation of one or more staff to work on some aspects of the WtWV program, with other functions performed by regular voucher staff. In Houston, the same staff that work on the regular voucher program undertakes most WtWV activities. However, those WtWV participants who enroll in the Family Self Sufficiency (FSS) Program are assigned to a case manager who works only with WtWV participants enrolled in FSS, through a special programs division. FSS helps participants in the rental voucher program to become self-sufficient through education, training, case management, and other supportive services. This staff person monitors the client's employment and education goals and makes referrals as needed to outside service providers. This approach is also used in Atlanta and Augusta. In Augusta, a WtWV case manager is responsible for providing case management services to a group of WtWV participants, while intake, eligibility determination, recertification are conducted by staff from the regular voucher program. In Atlanta a WtWV coordinator was assigned to supervise the initial intake and lease-up for the WtWV program, and to develop procedures for conducting recertification and service provision. The WtWV coordinator monitors the progress of all WtWV clients and refers the clients to agency case managers who can refer clients to appropriate services. In these sites, although staff that also work on the regular program perform some functions associated with operating the WtWV program, the designation of WtWV staff offers the opportunity to provide specialized services to voucher recipients.

In Los Angeles and Fresno, the WtWV program was staffed separately from the regular voucher program. Special units or divisions of staff were designated in these agencies to administer the WtWV program. These "special programs divisions" were responsible for administering other types of special vouchers. All functions associated with the WtWV program including intake, eligibility determination, recertification, and service provision are conducted through the separate division. In Fresno, this arrangement offers a mechanism for providing services that are unique to the WtWV program. In Los Angeles, despite the separate staffing unit, few specialized employment services have been offered to WtWV recipients.

Use of Partnerships to Operate the WtWV Program

The Notice of Funding Availability (NOFA) announcing the WtWV program required that housing authorities develop a program in consultation with the State or local entity administering the TANF program and the entity administering the Department of Labor's Welfare-to-Work grants.[32] The NOFA also stated that the rental assistance provided to WtWV participants should be coordinated with other welfare reform and welfare-to-work initiatives. Overall, we found that the role played by the TANF agency in the evaluation sites was limited to providing referrals to the WtWV program and to assisting HA staff to determine whether families met the TANF eligibility criteria. As the initial lease-up period was completed, the role played by TANF also diminished. By early 2003, housing authority and TANF staff in Los Angeles, Houston, and Spokane described the level of interaction between the two organizations as quite limited. In Augusta and Atlanta, TANF staff continue to provide referrals to the housing authority and help the housing authority verify the status of program applicants in the TANF program. Such referral activity has diminished, however, as the number of WtW vouchers available for issuance has declined.

In Fresno, the TANF agency has played a key role in the WtWV program throughout its operation. The TANF agency was involved in the initial lease-up period, providing referrals of potential participants, assistance in verifying program eligibility, and automated matches between the voucher waiting list and current TANF caseload. However, after the initial lease-up was completed, the TANF agency has continued to work closely with the housing authority. In December 2001, FHA entered into a formal contract with the Fresno County Human Services System's Employment and Training Assistance Department (E&TA) that provided funding for five Family Self-Sufficiency (FSS) staff. In addition, E&TA agreed to locate one of its own staff, a job specialist, in FHA's offices. This contract was renewed in December 2002, although the level of funding was reduced.

Housing Search Services Offered to WtWV Participants

Another indication of the extent to which WtWV is implemented distinctly from the regular HCV program is the type of housing search assistance offered. In general, we found that little in the way of specialized housing search assistance was provided to the WtWV program participants included in the evaluation sample. Most of the sites offered WtWV participants the same services for finding housing that they offered regular HCV participants, and these services were minimal (e.g., listings of current landlords). Enhanced search assistance has been provided in Fresno and Los Angeles, but the timing of these services may not have coincided with the period of housing search of the evaluation sample. Atlanta offered additional services for WtW voucher recipients, but only if they were at risk of having their vouchers expire. This included counseling from housing authority staff to identify barriers to finding housing and referrals to partner agencies to respond to those needs. Augusta also had additional services for voucher participants who were having difficulty leasing up, but these services were provided to both WtWV and regular HCV participants. These included referrals to social service agencies for assistance with security deposits and for assistance in locating available units.

In Los Angeles, enhanced housing search services were developed for WtWV participants, but these services were not available to all participants. Later enrollees, who were the participants included in the

[32] The Notice of Funding Availability was published in the Federal Register January 28, 1999.

evaluation sample, received less intensive services. In Los Angeles, the Department of Public and Social Services (DPSS, the local TANF agency) provided funding to the housing authority for housing search assistance services and mobility counseling. DPSS reimbursed the Housing Authority of the City of Los Angeles (HACLA) $2,500 for each household on the DPSS caseload that leased up with a WtW voucher. The housing authority used these funds to hire staff in-house to provide housing search assistance to WtW voucher clients.[33]

The housing search services offered to WtW voucher clients in Los Angeles included a case worker to help voucher participants identify potential neighborhoods, assistance with landlord negotiations, and transportation to specific units. However, the intensity of the housing counseling services was greater for voucher recipients who received a WtW voucher *before* random assignment began than for those in the research sample. In particular, housing authority staff reported that housing counseling services were offered on an individualized basis more often before random assignment. For members of the research sample, housing search assistance included housing search instructions during the briefings and access to a case worker who was available to provide counseling if requested by the participant.

Only Fresno established enhanced housing search services specifically for WtW voucher recipients and made those services available to *all* WtW voucher recipients. The Housing Authorities of the City and County of Fresno took a two-part approach to providing housing search assistance, and one part was available only to WtW participants. During the random assignment period (April-June 2000), the Housing Authority offered WtWV participants the same housing counseling services it offers all of its HCV participants. This included lists of landlords and vacant units, one-on-one counseling with housing authority staff if requested by the voucher recipient, credit counseling (in group sessions) led by a nonprofit organization, and referrals to United Way volunteers who assisted with moving furniture and belongings. Starting in July 2000 (when random assignment was completed) the city's housing authority provided special housing counseling in large group sessions exclusively for WtW participants who had not yet leased a unit with their voucher. Current landlords were present at these sessions to call prospective new landlords on behalf of the WtW voucher recipients. The participating landlords described the WtWV program and worked to persuade prospective landlords to agree to a payment plan for security deposits, when necessary. The HA also has a regular outreach program to landlords, and this was the primary vehicle for obtaining landlords for WtW participants. This program includes monthly meetings with current HCV landlords and the Apartment Owners' Association, and the HA used these forums to advertise the WtW program. The housing authority also placed advertisements in local papers and in publications of the Apartment Owners' Association, promoting the WtWV program as a safe and effective way to lease-up units. Housing search assistance for WtWV recipients was further enhanced in Fresno in late 2001, but this was after the research sample had been enrolled.[34]

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[33] In the original application, HACLA had anticipated working with non-profits to provide housing counseling services, but in the end the agency decided to hire new in-house staff to provide these services.

[34] Beginning in late 2001, the agency assigned a Housing Program Coordinator (HPC) from the special programs unit responsible for operating the WtWV program to each family who was issued a WtW voucher. The HPCs contact families weekly until they submit a Request for Tenancy Approval (RFTA). This contact is typically by telephone, but HPCs will do home visits if necessary. Through the weekly contacts, the HPCs give families encouragement and housing counseling as needed. The HPCs may also

Employment-Related Services

Although housing assistance alone can potentially change families' economic status by reducing their rent burdens or changing their locations (and access to employment), many families may also need assistance geared specifically towards obtaining and retaining employment. Housing authorities participating in the WtW voucher program were required to coordinate their efforts with the TANF agency and other local providers of employment and training services, to create a comprehensive set of services that would help participants move toward the goal of economic self-sufficiency. However, HUD did not require specific employment services or dictate how the services were to be offered. In practice, we found that most HAs did not offer employment-related services to WtW voucher participants beyond what was already available to them through TANF and other services. In this respect, the evaluation sites are similar to other WtWV programs, as reported by providers of technical assistance.[35]

Most of the evaluation sites referred WtW voucher recipients to existing employment-related services provided by the local TANF agencies or referred them to the HAs' FSS programs. Families who volunteer to participate in FSS sign a five-year contract with the PHA specifying the steps that both the family and the PHA will take to move them toward financial independence. Participants can also save money through FSS. An escrow credit, which is calculated by the PHA based on increases in earned income of the participating family, is deposited to an interest-bearing escrow account that the family can claim upon successful completion of the FSS contract.

All of the evaluation sites reported that they encouraged WtWV participants to enroll in FSS, but only Fresno required participation in FSS. This requirement in Fresno was not strictly enforced until late 2001, however, when the housing agency received funding from the TANF agency to fund case management for WtWV recipients.

We asked the housing authorities to estimate the number of WtWV participants enrolled in FSS in 2001 and again in early 2003. The results are shown in Exhibit 2.4. As the exhibit demonstrates, enrollment in FSS has been constant at all sites except Fresno, where approximately 50 percent of WtWV participants were enrolled in July 2001, but by February 2003 all WtWV participants (including members of the research sample) were enrolled in FSS.[36] At several sites, fewer than 10 percent of WtWV participants are enrolled in FSS. The largest rates of FSS participation are in Fresno (100 percent) and Augusta (44 percent).

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contact and negotiate with individual landlords to get families housed, particularly if the issue is the family's credit. These services are more extensive than those available to regular HCV families and indicate an effort by the Housing Authority of the City and County of Fresno to develop specialized services for the WtWV program.

[35] See Quadel Consulting Corporation (2002).

[36] Beginning in late 2001, when the housing agency received funding from the TANF agency to provide enhanced case management services to WtWV participants, all WtWV participants were contacted and informed of the requirement to enroll in FSS. This contact was made to all participants, including members of the research sample who had entered the program in mid-2000.

Exhibit 2.4
Extent of FSS Participation by WtWV Participants

	Percent of WtWV Participants Enrolled in FSS: July 2001	Percent of WtWV Participants Enrolled in FSS: February 2003
Atlanta	44%	42%
Augusta	4%	4%
Fresno	50%	100%
Houston	4%	5%
Los Angeles	10%	11%
Spokane	4%	9%

Source: Housing Authority staff estimates of FSS participation rates.

Beyond FSS, most housing authorities refer WtWV participants to outside service providers for job search assistance, skills training, and supportive services. From our interviews it appears that the most extensive array of employment-related services is offered in Fresno. Even at this site, the more intensive service provision began during 2002, well after enrollment of the evaluation sample. During the initial follow-up period, most of the research sample in Fresno did not any receive specialized employment-related services through the WtWV program.

To the extent that other services are provided in combination with the WtW voucher, the difference between treatment and control group members in the receipt of services is part of the intervention. Treatment-control differences in employment and other outcomes will reflect the effects of the *net* difference in services between the treatment and control groups, in addition to the impact of the voucher itself. As explained in Chapter One, while some of the control group members received vouchers, it is possible to adjust for this in the analysis. If services provided to treatment group members by the housing authority are the same services they would have received anyway (i.e., if controls receive the same services from other sources), this net difference will be small or nonexistent. If, however, a substantial proportion of the treatment group receives additional services, these services could be an important part of the treatment. Our conclusion is that, in most sites, any employment-related services offered in conjunction with the voucher were modest and similar to those available to controls. In Fresno, where specialized case management and employment services were developed for WtWV recipients, the timing of these services was such that they were not likely to have been provided to treatment group members during the first 12 to 18 months following random assignment. The more intensive employment services were implemented in late 2001 and early 2002, about 18 months after random assignment. In Augusta, a case manager was added to the housing agency's staff in 2002 to provide specialized services to WtW voucher participants, but this occurred nearly two years after enrollment of the research sample, making it unlikely that they received these services. We have concluded, therefore, that in assessing the interim effects of the WtWV program for this report, the intervention being tested is the voucher itself. This is an important conclusion because it means that it is not necessary to attempt to measure receipt of services by treatment and control group members to assess the impacts of the WtWV program.

2.3 Lease-up Patterns

To set the stage for the assessment of impacts of the WtWV program in the next three chapters, in this section we examine the extent to which treatment group members were successful in using the WtW voucher to lease a unit. We also explore the incidence of lease-up among control group members, who may have received rental assistance through the regular HCV program. Using data from HUD's MTCS system, we calculated the percentage of treatment and control group members who had leased up with a voucher during each month following random assignment. These results are presented for the same follow-up period that is used in estimating the program impacts presented in Chapters Three–Five. For all sites, the lease-up rates are shown through the fifth quarter after random assignment (Month 15), and for all sites except Los Angeles the results are shown through the seventh quarter after random assignment (Month 21). This section also provides information on the incidence of receipt of any type of housing assistance among treatment and control group members over the follow-up period, and a multivariate analysis of the characteristics of WtW voucher recipients who were successful in leasing with their vouchers.

The key findings from this analysis are:

- Through the 15th month after random assignment, 57 percent of treatment group members across all sites had leased with a WtW voucher. Among all control group members, 14 percent had leased with rental assistance received through the regular HCV program. (The 15-month interval is the longest over which all members of the research sample—including those in Los Angeles, the last-enrolled site—are observed in the MTCS data available through September 2002 for this report.)

- The 15thmonth lease-up rates varied from a low of 34 percent in Los Angeles, to a high of 75 percent in Augusta. Among control group members, lease-up rates at Month 15 ranged from a low of 6 percent in Los Angeles to a high of 22 percent in Augusta.

- By the 21st month, across all sites except Los Angeles, 62 percent of treatment group members had successfully leased a unit, as had 22 percent of controls. Among treatment group members, the rates varied from a low of 50 percent in Houston to a high of 76 percent in Augusta. The lease-up rate among controls at month 21 ranged from 16 percent in Atlanta to 30 percent in Augusta.

- MTCS and TRACS data indicate that 63 percent of treatment group members and 33 percent of controls had received some type of housing assistance (voucher assistance, public housing, or project-based assistance) at some point during the first 15 months after random assignment. Through the 21st month after random assignment, 70 percent of treatment group members and 42 percent of controls had received some type of housing assistance. A higher percentage of controls than treatment group members lived in public housing or Section 8 projects. Most treatment group members who were assisted used the WtW voucher.

See Appendix C for a description of the data sources and methods used to examine the patterns of lease-up among sample members. Appendix C also contains the results of multivariate analysis of

leasing success. Although the primary focus of this study is to estimate the effects of receiving a WtW voucher on employment, neighborhood location, and receipt of public assistance, it also provides an opportunity to explore factors that contribute to successful use of a voucher. The study sample represents a large group of families in six diverse localities, all of whom received a WtW voucher upon being assigned to the treatment group. We can use the research sample to examine whether there are systematic relationships between individual characteristics and the likelihood that a respondent will be able to use their voucher to lease-up. This analysis is presented in Appendix C.

Lease-up Rates for the Sample Overall

Exhibits 2.5 and 2.6 display the lease-up rates by month, through Month 15 for all sites and through Month 21 for all sites except Los Angeles. Exhibits 2.7 and 2.8 display the lease-up rates for treatment and control group members at Month 15 for all sites and at Month 21 for all sites except Los Angeles. Through Month 15, 57 percent of treatment group members across all sites had leased with a WtW voucher. Through Month 21, in all sites except Los Angeles, 62 percent had leased with a WtW voucher. The lease up rates observed for the WtWV program in these sites are low compared to national success rates for the HCV program. A study of voucher success rates conducted in 2000 in a nationally representative sample of HAs found that 69 percent of voucher recipients were successful in using the voucher to lease a unit.[37] The national study also found that success rates varied widely among HAs in 2000, from a low of 37 percent to a high of 100 percent, and that success rates had decreased substantially since 1993, when the last national estimates of leasing success were completed. Three of the HAs included in the national study are also in the WtWV evaluation sample—Atlanta, Fresno, and Los Angeles. The success rates measured in each of these HAs (60 percent in Atlanta, 64 percent in Fresno, and 47 percent in Los Angeles) were all lower than the national average. However, except in Fresno, the success rates were higher than what we observed in the WtWV program (see Exhibits 2.9, 2.11, and 2.13). It is not clear why the success rates found in the WtWV sites are lower, but one possibility is that the welfare population targeted for the WtWV program has more difficulty using the voucher than recipients in the national voucher program. Another possibility is that in most WtWV evaluation sites, participants were drawn, at least in part, from TANF rolls. These individuals were added to the HAs' waiting lists, and may have been less motivated to use the WtW voucher than those already on the waiting lists in the regular voucher program.

[37] See Buron and Finkel (2001). The study included a nationally representative sample of 48 HAs that operate programs of at least 800 vouchers.

Exhibit 2.5
Lease-up Rates, All Sites

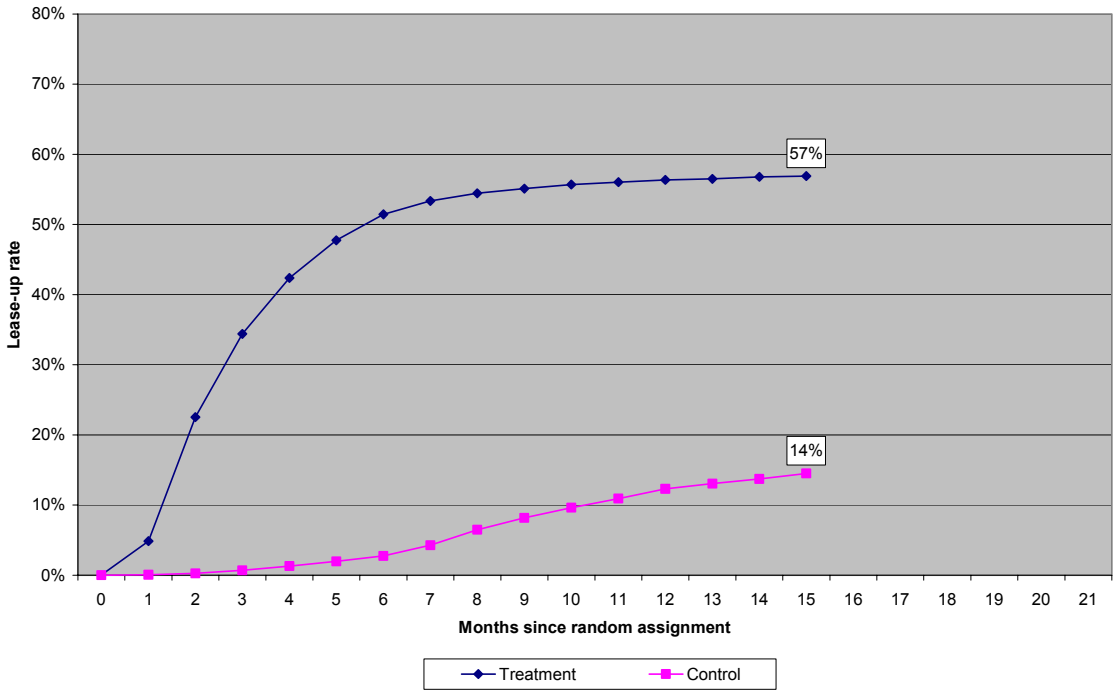


Exhibit 2.6
Lease-up Rates, All Sites Except Los Angeles

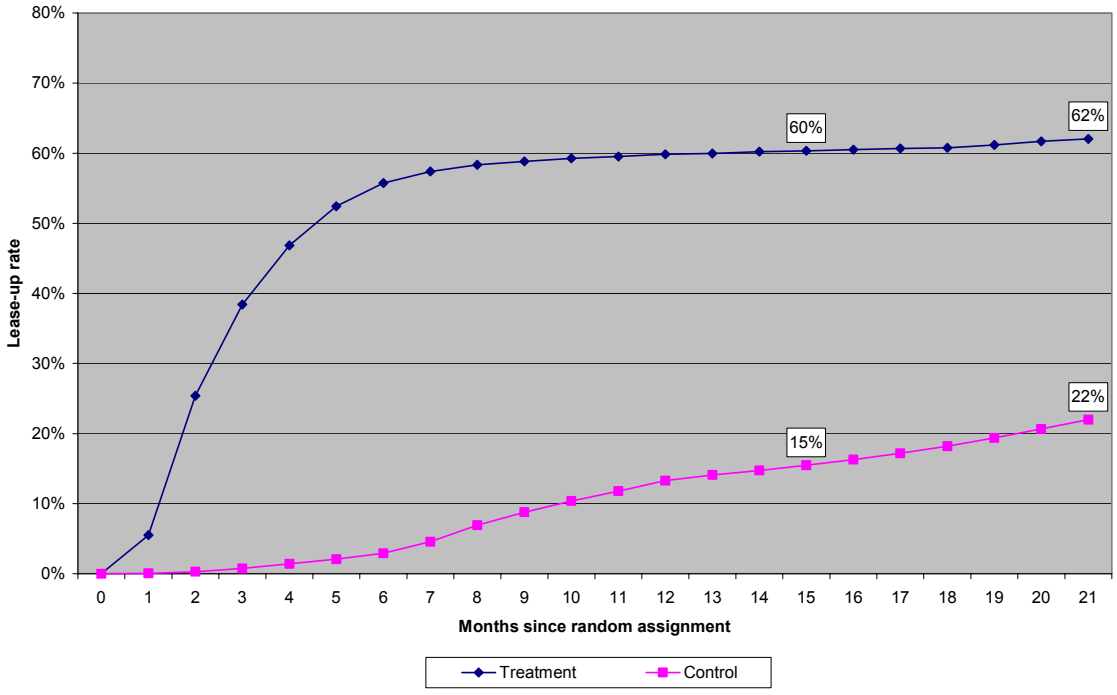


Exhibit 2.7
Lease-up Rates at Month 15, by Site

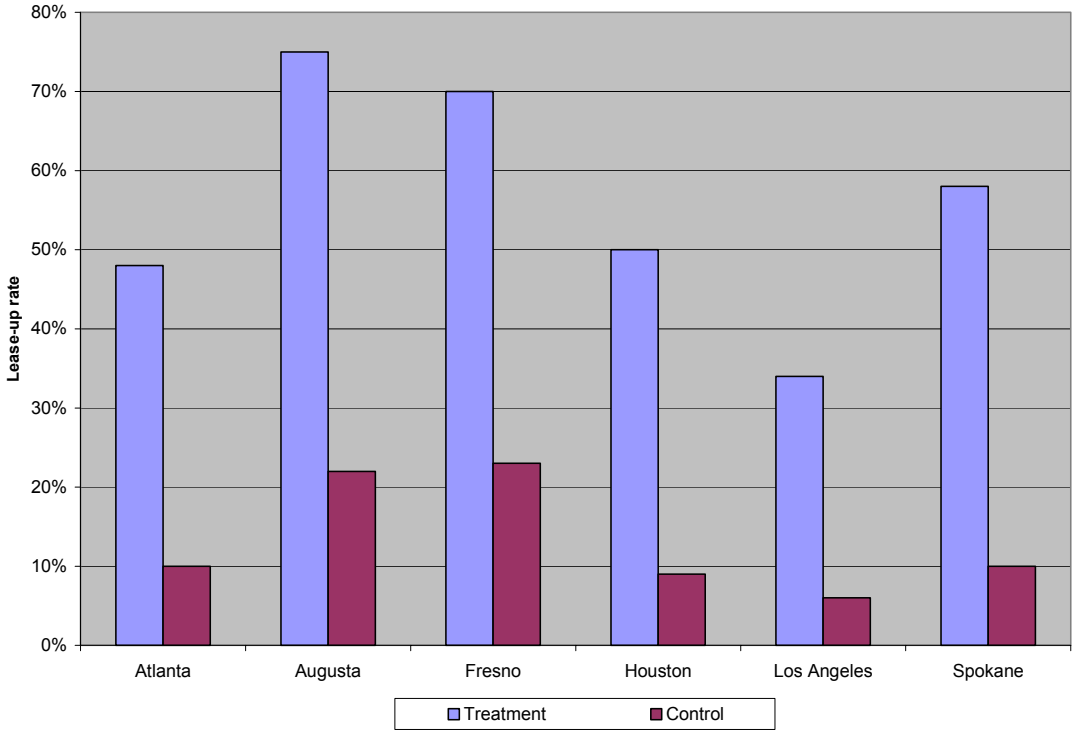
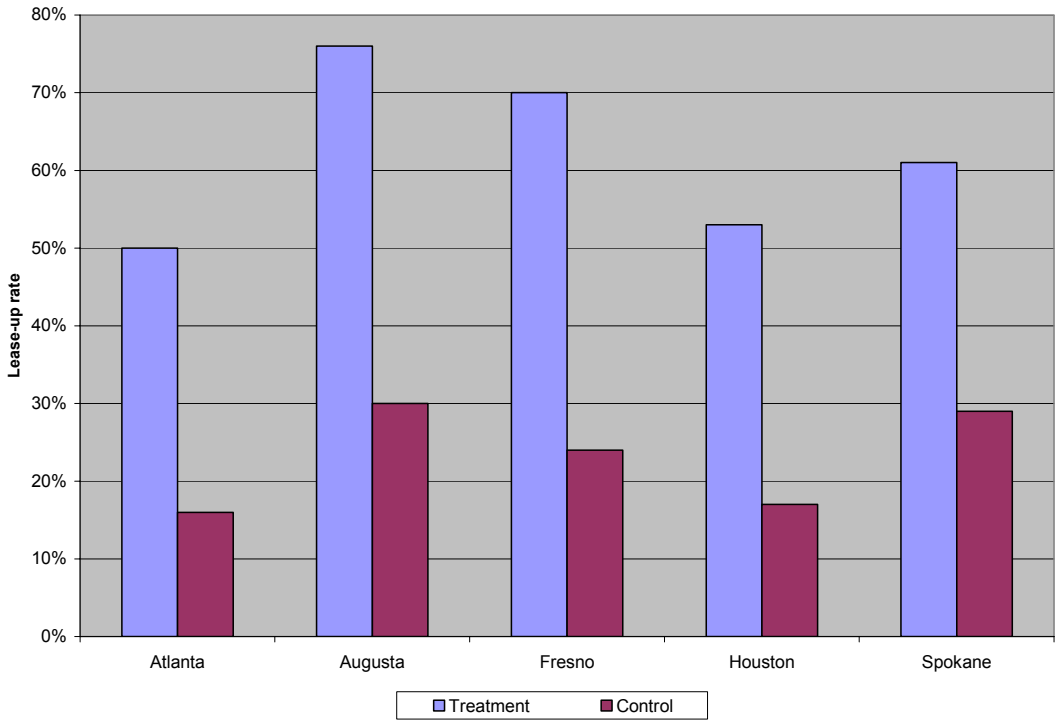


Exhibit 2.8
Lease-up Rates at Month 21, by Site



The lease-up rates varied from site to site. At the end of Month 15, the highest lease-up rates were observed in Augusta, where 75 percent of the treatment group and 22 percent of the control group had leased up. The lease-up rates in Los Angeles were substantially lower than those for the other sites as of the end of Month 15. In Los Angeles, only 34 percent of treatment group members and 6 percent of controls had leased up by the end of Month 15. Local rental market conditions could explain the low rates of leasing success at this site. Housing authority staff, as well as staff from the HUD Field Office, reported that the rental housing market in Los Angeles was extremely tight, especially during the latter half of 2001 when the WtWV sample members were attempting to use their vouchers.[38]

By the end of Month 21, Augusta still had the highest rate of lease-up among treatment group members, with 76 percent having leased by that time. Month 21 lease-up rates in the other sites (excluding Los Angeles, for which data for Months 16-21 were unavailable) ranged from 50 percent in Atlanta to 70 percent in Fresno. Among control group members, lease-up rates at Month 21 ranged from 16 percent in Atlanta to 30 percent in Augusta. Exhibits 2.9 through 2-14 display the lease-up rates over time in each of the evaluation sites. As the exhibits indicate, leasing among control group members has tended to increase over time, as controls make their way to the top of the waiting list and as additional rental vouchers become available to the housing agencies through program turnover or through new allocations of vouchers. In Fresno, the local staff reported that, as of February 2002, the waiting list for rental assistance had been depleted, indicating that any control group members who would have been offered vouchers would have received them by that time. The stable rate of lease-up from Month 15 through Month 21 in Fresno may be an indication that lease-up among controls may stabilize over time in the other sites.

Receipt of Housing Assistance During the Follow-up Period

In addition to examining lease-up with a voucher over the follow-up period, we also examined the extent to which treatment and control group members received other types of housing assistance (public housing or project-based rental assistance) during the period of follow-up. This analysis provides additional information about the treatment-control differential in resources available to pay for housing. For purposes of estimating the effects of the voucher, one would ideally want a very low rate of receipt of project-based assistance, as other forms of housing subsidy represent a confounding factor.

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[38] Buron and Finkel (2001) found a 47 percent leasing success rate in Los Angeles (with a 95 percent confidence interval ranging from 38 to 56 percent) for a sample of voucher recipients in May 2000. Possible explanations for the differences in observed rates might be that leasing success rates declined over time or that the lease-up measures differed in the two studies. In the results here, we used MTCS data to measure lease-up, while the earlier study used specialized software developed to track the progress of a sample of voucher recipients. If the HA does not provide complete reporting to MTCS, this could explain lower lease-up rates observed among the WtWV program population. However we did not examine the HA's MTCS reporting practices, so cannot say with certainty that this explains the success rates observed.

Exhibit 2.9
Lease-up Rates, Atlanta

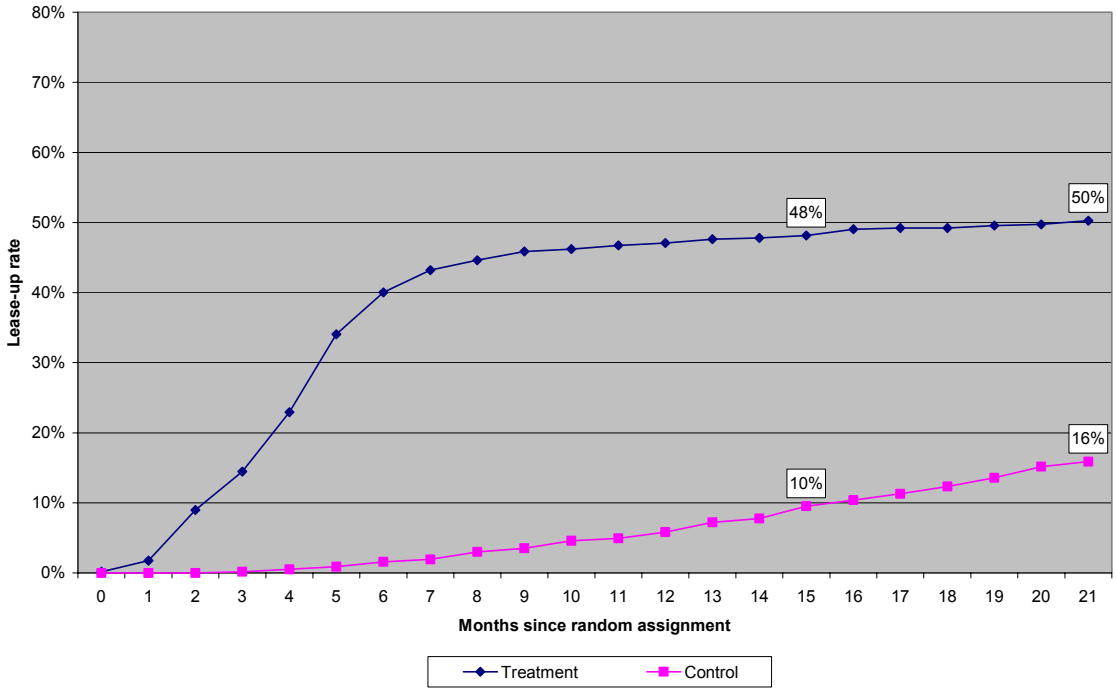


Exhibit 2.10
Lease-up Rates, Augusta

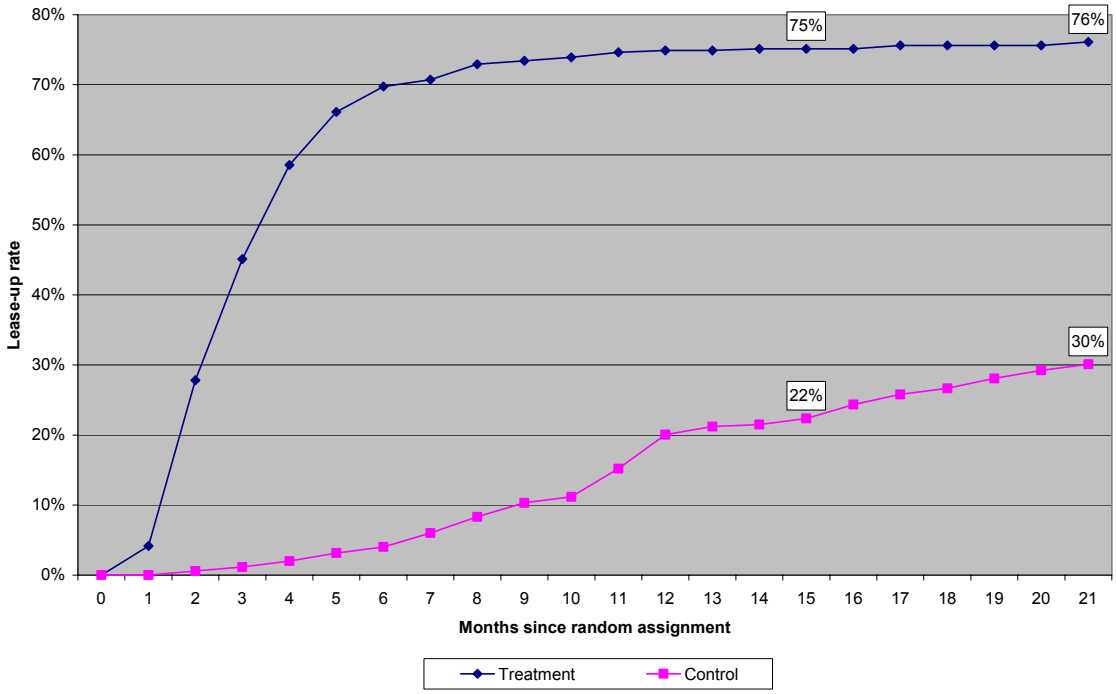


Exhibit 2.11
Lease-up Rates, Fresno

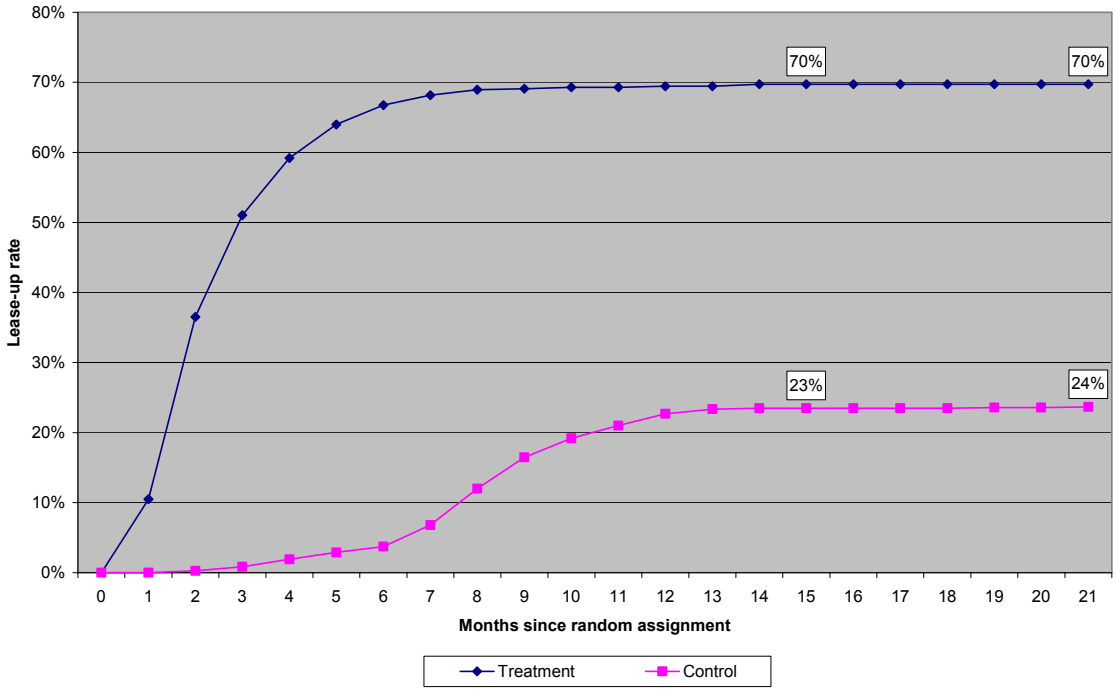


Exhibit 2.12
Lease-up Rates, Houston

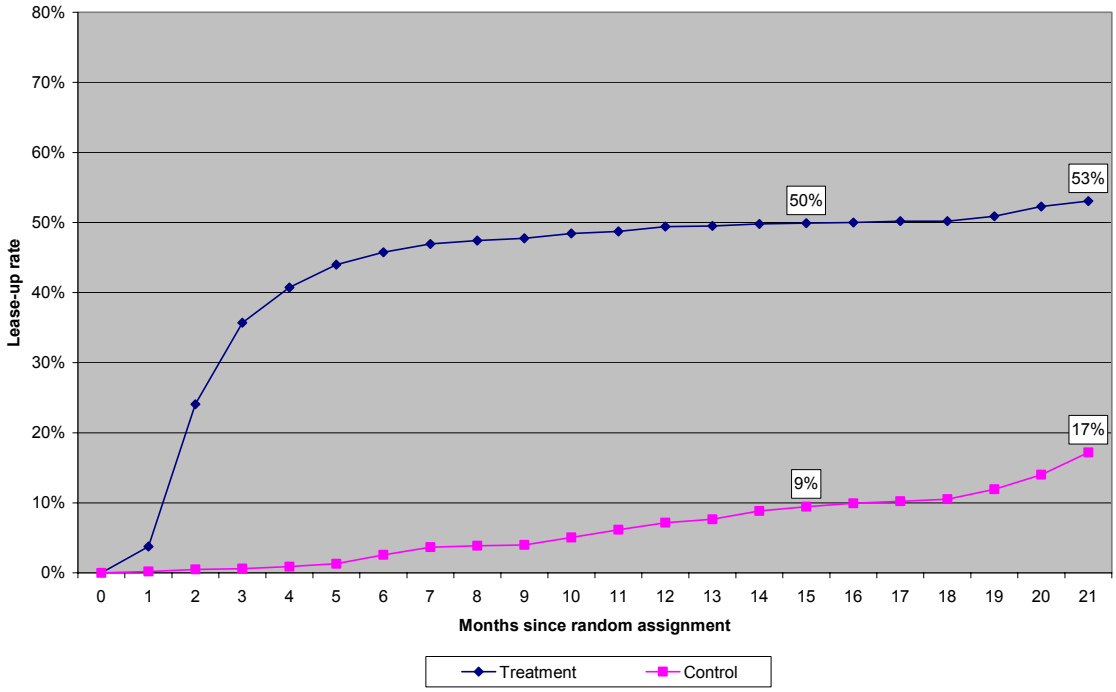


Exhibit 2.13
Lease-up Rates, Los Angeles

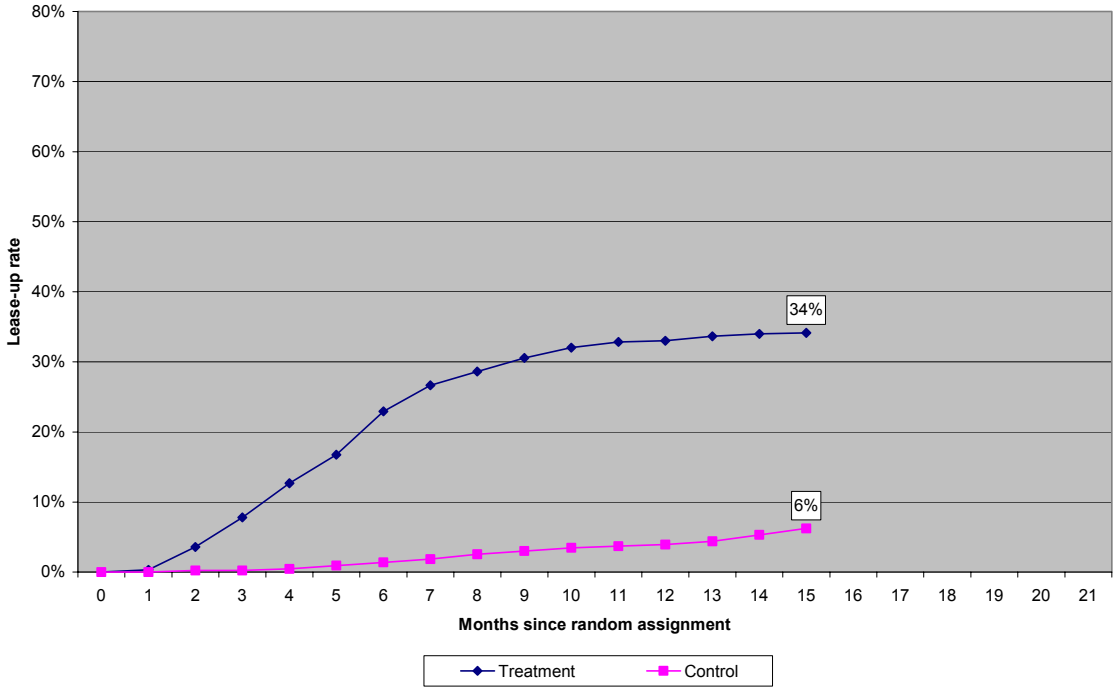
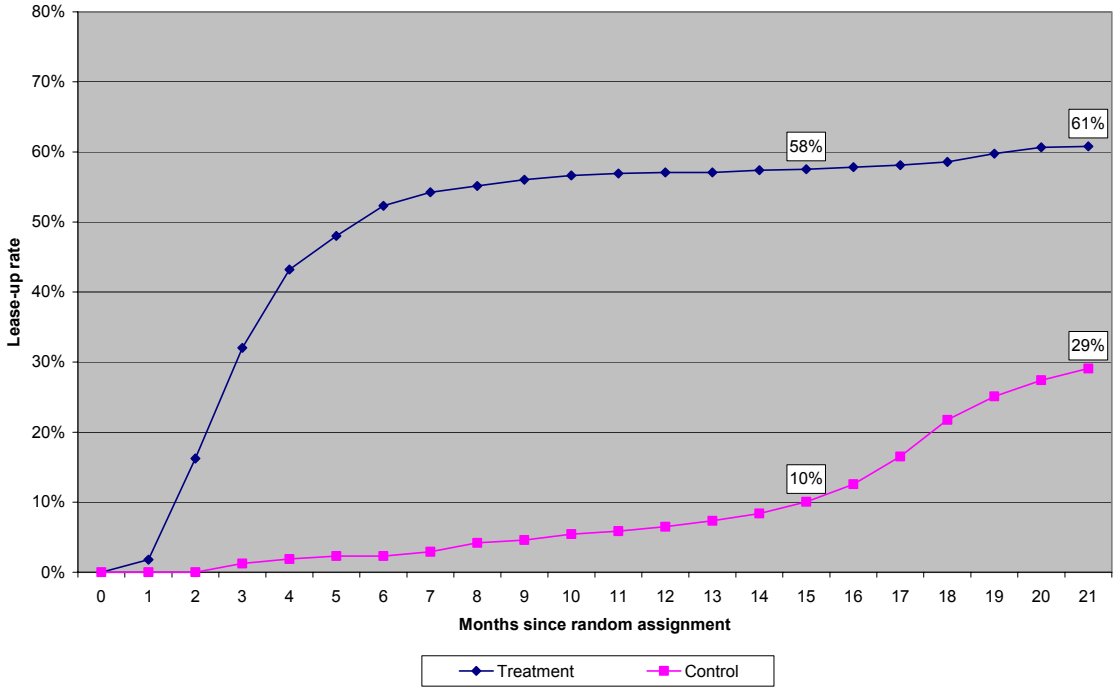


Exhibit 2.14
Lease-up Rates, Spokane



We used MTCS data to identify receipt of public housing and tenant-based assistance and an extract from TRACS data to measure receipt of project-based assistance. The results are shown in Exhibit 2.15. As might be expected, higher percentages of the control group received public housing and project-based rental assistance over the follow-up period than in the treatment group. Eleven percent of controls (compared to 6 percent of treatments) had received project-based assistance, and 7 percent of controls (compared to 3 percent of treatments) had received public housing by the end of Month 15. Overall, the rates of receipt of housing assistance are higher for treatment group members than for controls, reflecting the receipt of the WtW voucher among treatment group members.

Exhibit 2.15
Receipt of Housing Assistance

	By Quarter 5 (All sites)			By Quarter 7 (All Sites Except Los Angeles)		
	Treatment Group n=4,690	Control Group n=4,042	Overall Sample n=8,732	Treatment Group n=4,075	Control Group n=3,610	Overall Sample n=7,685
Received a voucher	56%	17%	38%	64%	27%	46%
Received public housing assistance	3%	7%	5%	4%	8%	6%
Received project based assistance	6%	11%	8%	7%	13%	10%
Received any type of housing assistance	63%	33%	49%	70%	42%	57%

Source: MTCS and TRACS

Chapter Three
Impacts on Where Families Live

This chapter presents the impacts of the WtW Voucher treatment on a variety of characteristics of study participants' neighborhoods, including poverty and employment rates, minority concentration, youth idleness, and educational attainment. The focus of the analysis is on neighborhood characteristics rather than the quality of the housing unit itself. After a brief discussion of some hypotheses about treatment effects and neighborhood quality, and a description of the data and methods of analysis, we present the impact estimates.

Summary of Findings

Receipt of housing assistance in the form of a voucher should allow recipients to access housing in a wider range of neighborhoods than without the voucher. If a unit in a higher-quality neighborhood becomes affordable with the voucher, the family can move to that unit. In a finding consistent with this hypothesis, voucher treatment resulted in a significantly higher probability of a move from one's baseline Census tract by the 5th or 7th follow-up quarter.

Observed differences in neighborhood quality result from the pattern of mobility of both treatment and control group members. Although similar improvements in neighborhood quality were recorded for both treatment and control group members who relocated to a different Census tract by the 5th or 7th follow-up quarter, the treatment group's greater mobility resulted in a significant favorable voucher impact on several measures of neighborhood quality. At the 7th quarter after random assignment (i.e., for the sample excluding Los Angeles), treatment was associated with residence in neighborhoods with lower poverty rates and higher adult employment rates. The relationship between greater mobility and improved characteristics of the 5th or 7th quarter neighborhood does not hold for all subgroups.

The treatment had somewhat different impacts across subgroups. For the non-Hispanic black subgroup and for the under-25 subgroup, the treatment was associated with residence in slightly better neighborhoods along several dimensions. Those living in public or other assisted housing at baseline experienced significant positive treatment effects on several measures, larger in magnitude than for any other subgroup.

3.1 Hypotheses About Neighborhood Characteristics

We expect families' locational decisions to be affected because of the greater housing affordability enabled by the voucher. Although families in the Welfare to Work Voucher program may use their vouchers to lease in place, their ability to relocate to neighborhoods with higher employment rates, lower crime rates, more amenities and conveniences, better schools, lower transportation costs, and more jobs and job training opportunities was an explicit rationale for the program. We therefore

hypothesize that families afforded the opportunity to move to housing in more advantaged neighborhoods will do so, and that this will ultimately result in treatment group members residing in systematically higher quality neighborhoods than control group members.

The treatment might be expected to affect some subgroups differently, as barriers to relocation or lease-up, and search costs, vary among individuals in different circumstances. For example, we might expect persons who are employed to be less likely to move, because of the higher opportunity costs associated with housing search. Similarly, responsibilities for dependent children may raise the costs of housing search and reduce the likelihood that a family will move to new housing. All other things equal, we might expect ethnic minorities to face higher barriers to mobility because of discrimination. On the other hand, those families who indicated a desire to move at baseline might be expected to have a greater degree of motivation to search and may expend more time or other resources in housing search than those who did not report such a desire; and persons with more education may be able to search more efficiently for units in better neighborhoods. Finally, because families could lease in place, those who viewed their financial situation as critical might have chosen to remain in their current unit in order to begin receiving rental assistance as soon as possible.

3.2 Data Sources and Measures

The data for this chapter consist of individual-level address histories compiled from the baseline survey, housing assistance program databases (HUD's TRACS and MTCS), and responses to tracking letters sent to sample members (and contact persons identified in the baseline survey). These chronological sequences of addresses were geocoded to their corresponding Census tract and block group. The geographic identifiers were then used to match each family to various dimensions of neighborhood quality taken from the Census Bureau's 2000 Summary File 3.[39] The Census data for various follow-up quarters serve as dependent variables; baseline survey data and baseline values of the Census variables are included as covariates in the impact model.

The dependent variables from the Census Summary File 3 data are defined as follows:

- Percent below poverty level—percent of persons whose ratio of income to the poverty level (in 1999) was less than 1.00 ("poverty rate");
- Percent minority—percent of persons in the Census tract categorized as minorities, including all non-white and all of Hispanic origin ("minority concentration");
- Percent of adults employed—percent of persons 16 years of age and over in the Census tract in the civilian labor force who were employed ("adult employment rate");
- Percent of adults with no high school education—percent of persons 25 years and over in the Census tract with less than a 9th-grade education ("low educational attainment");

[39] We use "neighborhood" throughout to mean Census tract.

- Percent of youths not in school and not in the labor force—percent of persons 16 to 19 years of age in the Census tract who were not enrolled in school and not in the civilian labor force ("youth idleness");

- Percent above 200 percent of poverty level—percent of persons whose ratio of income to the poverty level (in 1999) was 2.00 or more ("above-twice-poverty rate").

An imputation process was used to supply values for missing addresses, Census tract or block group codes, or Census data. Missing addresses resulted from gaps between an address the subject was known to have left and the next known valid address for that individual. Missing Census tract or block group codes resulted from the failure of some addresses to geocode properly. Missing Census data resulted from a lack of observed values for outcome variables for some addresses (not caused by a failure of the address to geocode properly). The imputation routine examined the pattern of missing data, and used the next known address (and all linked locational data), unless the missing value was at the end of an address history, in which case the last known value was replicated to the end of the history. Missing addresses were imputed first, followed by missing Census tract and block group codes and, finally, missing data within a Census tract.[40] There were no large differences between the patterns of impact estimates derived from imputed and non-imputed datasets.[41] Chronologies of Census tract and block group codes were used to generate dichotomous variables indicating, as of each quarter, whether a given sample member had moved from the tract containing his or her baseline address (an "out-of-tract" move), or within the same tract to a different block group (a "within-tract" move).

Our primary focus in this chapter is the detection of treatment impacts at the 5th and 7th quarters following random assignment. All sample members were observed through five follow-up quarters. In all sites except Los Angeles, sample members were observed through seven quarters. Study sites differed in their random assignment dates and periods. Thus, the relative follow-up quarters may represent different calendar dates for different sites, or even for different individuals within the same site.

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[40] The sequence of imputation steps was meant to reduce the total number of imputed cells in the data set. The imputation of missing addresses results in the substitution of address, tract and block group codes, and linked Census data, for the next non-missing address for the individual (unless the missing data are at the end of the address history). The imputation process for addresses that did not properly geocode results in the use of tract and block group codes, and linked Census data, that match a subsequent quarter's address (unless at the end of the address history). The imputation process for missing Census data results in the substitution only of Census data from a subsequent quarter's address for the individual. This means that for some records having required imputation, the original address, the Census tract and block group codes and the linked Census data will not correspond to the same geography. In addition, the direction of imputation will cause some moves to appear to have occurred sooner than they may actually have occurred, as for most missing records (those not occurring at the end of an address history) a valid value is sought in subsequent observations for the individual. The direction of imputation was chosen to address the problem of known moves from addresses, without immediately subsequent address data. Continuing the prior address would mean assuming ongoing residence at a location that the individual was known to have left.

[41] Imputed data were necessary for the calculation of TOT estimates (the procedure did not allow missing observations), so no comparison of estimates from imputed and non-imputed data is possible for TOT estimates.

Subgroups were defined by baseline characteristics such as ethnicity, presence of dependent children, desire to move at baseline, earnings, education, time to TANF expiration, and reservation wages. It is important to note that, although the individual-level addresses represent household locations at different points in time, the Census data reflect information only for the period in 2000 over which the Census was conducted. Given the timing of random assignment (April 2000 – May 2001), we would expect these values to be reasonably accurate characterizations of the tract. We did not, however, examine whether the Census tracts to which subjects relocated (or in which they remained) declined or improved over time on any particular measure of quality. Nor did we examine locational data measured over areas below the Census tract level, such as data linked to or calculated for block groups. For this reason, changes in neighborhood quality resulting from relocation *within* a Census tract have not been measured, and our estimates may understate mobility-related impacts to some degree.[42]

An examination of the characteristics of the neighborhoods where the study's sample members lived at baseline (versus national metropolitan averages) shows that sample members lived in areas comparable to tracts with poverty rates over 20 percent located in U.S. MSAs. See Exhibit 3.1.

Exhibit 3.1
Neighborhood Characteristics

Neighborhood Characteristic	Higher-Poverty U.S. Metro Avg.	*Baseline, All Sites*		*Quarter 5, All Sites*	
		Control Mean	Treatment Mean	Control Mean	Treatment Mean
Poverty rate	33.56%	28.18%	28.00%	27.65%	27.29%
Above-twice poverty rate	39.94	45.34	45.57	45.98	46.29
Percent minority	71.80	70.54	70.19	70.95	70.42
Percent of adults employed	85.94	87.11	87.22	87.33	87.55
Percent of adults with no high school education	16.84	16.92	16.53	16.74	16.42
Percent of youths not in school and not in labor force	11.77	9.44	9.52	9.38	9.49

Notes:
[a] Unweighted mean over all tracts with poverty rate over 20 percent in Census MSA/CMSAs.
Sources:
U.S. Census 2000, Abt Associates baseline survey data.

[42] Within-tract mobility was measured but was determined to be an infrequent occurrence, as discussed in Section 3.3.

As was observed in baseline survey data, random assignment provided well-matched treatment and control groups with respect to their neighborhood characteristics.[43] Exhibit 3.1 also shows the unadjusted mean values for neighborhood characteristics at Quarter 5, for both the control and treatment groups.

3.3 Patterns of Mobility

Favorable locational effects are not necessarily limited to treatment group mobility; they could result from a pattern of treatment group stability and control group mobility. Favorable impacts examined in this chapter will result if treatment-movers and treatment-stayers (combined) end up in "better" locations than the control-movers and control-stayers (combined). For example, one can imagine a situation in which no treatment group members move, but some control group members move. If the control-movers tend to re-locate to lower quality neighborhoods than at baseline, we would estimate a favorable impact. It would be related to mobility, but not the mobility of treatment cases. Exhibit 3.2 provides information on lease-up rates and mobility rates for treatment and control group members, expressed as percentages.

Exhibit 3.2
Lease-Up Rates and Mobility Rates

	Quarter 5, All Sites		*Quarter 7, All Sites Except Los Angeles*	
	Control Group (N = 3849)	**Treatment Group (N = 4497)**	**Control Group (N = 3431)**	**Treatment Group (N = 3908)**
Leased up	**15%**	**58%**	**22%**	**63%**
Movers	8	32	12	37
Stayers (leased in place)	7	26	10	26
Did not lease up	**85**	**42**	**78**	**37**
Movers	26	12	36	18
Stayers	59	30	42	19
Total movers	**34**	**44**	**48**	**55**
Total stayers	**66**	**56**	**52**	**45**

Both treatment and control groups exhibited mobility, although treatment group members were more likely to move. Individuals who relocated could move outside their baseline Census tract (in which case a mobility-related neighborhood change would be reflected in tract-level data) or within their original Census tract. Within-tract movement, indicated by a change of one's block group within the same tract, was not widely observed.[44]

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[43] See Appendix B for detailed tables on baseline characteristics.

[44] Fewer than 3 percent of sample members had moved within their baseline Census tract by the 5th or 7th follow-up quarter. Appendix Exhibits D.1 and D.2 present subgroup impacts for out-of-tract and within-tract mobility.

Exhibit 3.3 shows mobility rates for all treatment and control group members at the 5th and 7th quarters. Treatment group members were more likely to have changed Census tracts by the 5th quarter, but by the 7th quarter the prevalence of out-of-tract moves by both groups is more similar in magnitude.

Exhibit 3.3
Out-of-Tract and Within-Tract Mobility Rates

	Quarter 5, All Sites		*Quarter 7, All Sites Except Los Angeles*	
	Control Group	**Treatment Group**	**Control Group**	**Treatment Group**
Out of tract	32%	42%	45%	52%
Within tract	2	2	3	3
Total	34	44	48	55

As Exhibit 3.4 indicates, out-of-tract mobility was significantly promoted by the voucher intervention. TOT estimates for the impact of the voucher treatment on the probability of out-of-tract mobility are 22 percent for the 5th quarter and 18 percent for the 7th quarter.

Exhibit 3.4
Impacts on Mobility

	Quarter 5, All Sites			*Quarter 7, All Sites Except Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Out of tract (%)	31.98	9.56 ***	22.37 ***	45.24	7.35 ***	18.41 ***
		(1.01)	(2.31)		(1.08)	(2.58)
Within tract (%)	2.16	-0.03	-0.04	2.83	0.15	0.13
		(0.32)	(0.72)		(0.39)	(0.90)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

3.4 Impacts on Where Families Live

Vouchers are hypothesized to result in a wider set of housing options for recipients, making it possible for them to relocate to, or remain in, better neighborhoods. Testing this hypothesis requires determining whether the treatment group had significantly better follow-up outcomes (measured in terms of neighborhood characteristics) than the control group.

Again, an *impact on neighborhood quality* in this chapter results from the pattern of "moves" and "stays" for treatment group members, versus the pattern for the control group.[45] Changes that may occur in a given neighborhood over time are not measured.

Exhibit 3.5 presents impacts on the characteristics of neighborhoods where study participants lived as of the 5th follow-up quarter (all six sites) and the 7th follow-up quarter (excluding Los Angeles[46]). For the six-site (total) sample, we found evidence of marginally significant neighborhood impacts on adult employment in the 5th quarter; there were statistically significant treatment effects on two neighborhood outcomes in the 7th quarter analysis: Treatment is associated with a significantly higher rate of adult employment in the neighborhood and a lower neighborhood poverty rate.[47] (Note, however, that the impact on the neighborhood poverty rate is only marginally significant.[48])

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45 The association of voucher treatment with different outcomes at follow-up can be a result of various combinations of treatment and control group mobility or stability, such as control group members relocating to neighborhoods with lower quality than their baseline residences.

46 Analyses of employment and earnings showed no effects resulting from excluding Los Angeles from the 5th-quarter sample. As a result we have not presented separate 5th-quarter estimates that exclude Los Angeles.

47 We also estimated a separate set of equations in which the treatment was redefined to include the receipt of any form of housing assistance—i.e., not only tenant-based rental assistance (a voucher) but also public housing and project-based rental assistance. We estimated both ITT and TOT impacts under this alternative specification, for the primary set of neighborhood indicators defined over the full research sample. The alternative findings were very similar to those presented in this chapter. In particular, the pattern of statistical significance in the TOT effects was unchanged from the basic estimates. For this reason, and because this experiment was designed from the outset as a test of tenant-based rental assistance, we have not shown the alternative estimates here.

48 Throughout, "statistically significant" refers to a p-value < .05, while "marginally significant" refers to a p-value between .05 and .10.

Exhibit 3.5
Impacts on Neighborhood Characteristics

Neighborhood Characteristic	*Quarter 5, All Sites* Control Mean	ITT Impact	TOT Impact	*Quarter 7, All Sites Except Los Angeles* Control Mean	ITT Impact	TOT Impact
Poverty rate (%)	27.65	-0.20 (0.19)	-0.41 (0.44)	28.12	-0.37 (0.22)	-0.91 * (0.53)
Above-twice-poverty rate (%)	45.98	0.08 (0.23)	0.14 (0.53)	45.62	0.30 (0.27)	0.68 (0.65)
Percent minority (%)	70.95	0.11 (0.25)	0.25 (0.56)	69.98	0.01 (0.29)	0.15 (0.70)
Percent of adults employed (%)	87.33	0.16 * (0.09)	0.35 * (0.21)	87.06	0.23 ** (0.11)	0.61 ** (0.25)
Percent of adults with no high school education (%)	16.74	0.11 (0.15)	0.26 (0.34)	16.09	-0.05 (0.17)	-0.13 (0.41)
Percent of youth not in school and not in labor force (%)	9.38	0.05 (0.11)	0.13 (0.25)	9.54	-0.07 (0.14)	-0.17 (0.33)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

It should be noted that the size of the overall impacts is small in part because of the WtW Voucher program's flexibility in allowing voucher recipients to lease in place. As indicated in Exhibit 3.2, of the treatment group members who had leased up by the 5th quarter following random assignment, nearly one-half had leased in place.

Exhibit 3.6 presents 5th quarter impacts by subgroup on the characteristics of study participants' neighborhoods: poverty rate, minority concentration, adult employment rate, educational attainment, youth idleness, and above-twice-poverty rate.[49]

[49] Subgroup regressions were performed by estimating the impact model (described in the section on "Subgroup Impacts" in Chapter One) on data restricted to subgroup members. Subgroup regression tables, including control means and sample sizes, are presented in Appendix Exhibits D.3 through D.8.

Exhibit 3.6
TOT Impacts by Subgroup on Neighborhood Characteristics

	Quarter 5, All Sites					
Subgroup	**Poverty Rate**	**Percent Minority**	**Adult Employment**	**Low Educational Attainment**	**Youth Idleness**	**Above-Twice-Poverty Rate**
White, non-Hispanic	1.21	1.89 *	-0.50	0.13	-0.03	-1.56
Black, non-Hispanic	-2.02 **	-1.06	1.07 ***	0.14	-0.04	1.30
Hispanic	0.51	0.96	-0.20	-0.86	0.16	-0.48
Working at baseline	-0.10	0.60	0.21	0.31	-0.07	-0.22
Not working at baseline	-0.25	0.27	0.26	0.33	0.14	0.01
Ever worked at baseline	-0.18	0.48	0.21	0.31	-0.01	-0.13
Never worked at baseline	-1.41	-0.04	0.97 *	0.13	0.14	1.33
Age 24 and under	-2.30 ***	-0.60	1.41 ***	-0.82	0.54	1.74 *
Age 25 - 34	0.67	0.78	-0.29	1.29 **	-0.33	-1.10
Age 35 - 44	-0.23	-0.07	0.33	-0.57	0.32	0.34
Age 45 and older	2.49	2.14	-0.62	0.95	-0.74	-1.82
Any dependent children	-0.17	0.46	0.20	0.45	0.00	-0.06
No dependent children	-2.31	-1.33	1.71 **	-1.06	1.08	0.98
Not on TANF	-1.20	-0.83	0.61	-0.32	-0.99	1.54
TANF expires within 6 months	-1.84	-0.13	0.91	-0.01	-0.55	1.62
TANF expires in 6 - 12 months	-2.08	-2.37	0.81	-0.56	-0.18	1.72
TANF expires in 12 - 18 months	-0.17	-0.15	0.91	0.56	-0.71	1.51
TANF expires in > 18 months	-0.06	1.17	-0.06	0.52	-0.59	-0.13
On TANF at baseline	-0.37	0.28	0.33	0.28	0.14	0.17
Not on TANF at baseline	-1.20	-0.83	0.61	-0.32	-0.99	1.54
Desires to move for employment reasons	-0.55	-0.37	0.23	-0.88	0.64	0.28
Does not desire to move for employment reasons	-0.34	0.37	0.34	0.47	-0.01	0.06
Employment (reservation wage not asked)	-0.10	0.60	0.21	0.31	-0.07	-0.22
Reservation wage is 3 - 5.99	-2.10	-3.57	2.14	-3.07	-0.15	2.19
Reservation wage is 6 - 8.99	-0.20	-0.23	0.44	0.81	0.24	-0.30
Reservation wage is 9 - 12.99	-1.34	-1.19	0.40	0.16	0.00	0.84
Reservation wage is 13 - 15.99	-3.54	1.57	2.25	-0.98	0.82	4.87

Notes:
TOT stands for “Treatment-on-Treated”.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit 3.6 (Continued)
TOT Impacts by Subgroup on Neighborhood Characteristics

	Quarter 5, All Sites					
Subgroup	**Poverty Rate**	**Percent Minority**	**Adult Employment**	**Low Educational Attainment**	**Youth Idleness**	**Above-Twice-Poverty Rate**
Rents or owns apartment or house	0.55	1.15	-0.12	0.39	0.18	-0.79
Lives with friends or relatives	0.33	0.54	0.30	0.06	0.25	-0.60
Resides in public or other assisted housing	-5.34 ***	-3.37 **	1.74 **	0.77	-0.82	4.66 **
Homeless shelter, transitional housing	1.08	1.45	-0.60	-1.90	-1.70	-1.68
Enrolled in a job training program	-0.28	1.32	0.12	0.78	-1.18 *	-0.10
Enrolled in, but has not yet started, a job training program	-0.72	0.63	0.47	1.30	0.91	0.08
Not in a job training program	-0.24	0.24	0.32	0.04	0.17	0.01
High school diploma	0.53	1.45	-0.19	0.66	0.05	-1.43 *
GED (but no high school diploma)	-0.26	-0.38	0.84 *	-0.77	-0.15	1.14
Neither a HS diploma nor GED	-0.95	0.37	0.47	0.59	0.50	0.63
Age of youngest person in household is less than 6 years	-0.79	0.03	0.54 **	0.34	0.25	0.28
Age of youngest person in household is 6 - 17 years	0.74	0.58	-0.47	0.00	-0.24	-0.53
Age of youngest person in household is 18 years or more	-1.56	-1.20	2.23 *	-0.48	0.19	1.85
Enrolled in school	1.91	1.32	-0.47	1.85 **	-0.56	-3.05 **
Not enrolled in school	-0.67	0.31	0.40 *	-0.01	0.09	0.51

Notes:
TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10

There is a consistent pattern of significant and relatively large favorable impacts for the black population. Compared to the control group, black treatment group members resided in neighborhoods that had lower poverty rates, higher employment rates, lower youth idleness, and higher above-twice-poverty rates.

Individuals aged 24 or younger at baseline also experienced positive treatment effects. Compared to the control group, treatment group members in this subgroup lived in neighborhoods with lower poverty rates, higher adult employment rates, and higher above-twice-poverty rates.

Persons who reported living in public or assisted housing at baseline also exhibited a broad pattern of positive treatment effects.[50] Compared to the control group, treatment group members in this subgroup resided in neighborhoods with lower poverty rates, higher above-twice-poverty rates, lower minority concentration and higher adult employment. The magnitude of the impacts for this subgroup was larger than for any other group.

3.5 Interpretation of Results

The WtW Voucher participants showed small improvements in two dimensions of their neighborhood quality – the adult employment rate and the poverty rate. Impacts measured from the voucher treatment should be expected to be on the same order of magnitude as overall unadjusted treatment-control differences in neighborhood quality. Recall from Exhibit 3.1 that unadjusted differences between treatment and control group outcomes at the 5th quarter were small in magnitude, suggesting that voucher impacts might be expected to be small as well.

These full-sample results, in addition to being small, were both significant only in the 7th quarter after random assignment. However, there were larger and more robust impacts, and impacts over a broader range of outcomes, for several population subgroups—non-Hispanic blacks, those under age 25, and those in public or assisted housing at baseline.

One potential explanation for the impacts observed involves the relationships among mobility, neighborhood change, and voucher intervention. An examination of neighborhood characteristics for those who had relocated showed that movers in both treatment and control groups generally experienced favorable changes in their surroundings. Furthermore, the analysis shown in Exhibits 3.4 suggests that voucher treatment positively influenced mobility, resulting in a 22 percent greater probability of a move by the 5th quarter and an 18 percent greater probability of a move by the 7th quarter among treatment group members. A significantly larger proportion of treatment group members may have been part of the common pattern across treatment and control members of relocating to neighborhoods with better characteristics. Movers experienced favorable mobility-related neighborhood change on average, but a *larger share* of treatment group members moved.

However, when subgroups are considered, those that had large and significant voucher impacts on mobility did not necessarily show voucher impacts on the characteristics of their neighborhoods at the 5th and 7th quarters following random assignment. Enhanced mobility did not always result in better residential surroundings for all subgroups, although the subgroups with the most consistent patterns of improvement in their surroundings (non-Hispanic blacks, those under 25, and those in public or other assisted housing at baseline) all had large and significant voucher impacts on mobility. It is

[50] The information on housing status at baseline used for this analysis was derived from responses to the intake survey rather than from HUD datasets.

possible that the mechanism by which voucher intervention resulted in an improved quality of the neighborhood of residence by the 5th or 7th quarter is different for different subgroups.

The subgroups that experienced positive neighborhood impacts—blacks, those under-25, or those in public or assisted housing—face labor market difficulties beyond those of other segments of the WtWV program population. The overall magnitude of the short-run locational impacts for all recipients was small. Nevertheless, the fact that the WtWV program enabled some subgroups to relocate to higher-quality neighborhoods is encouraging.

Chapter Four
Impacts on Employment and Earnings

This chapter presents the estimated impacts of the WtW Voucher treatment on employment rates and earnings amounts. We begin by summarizing the hypothesized effects of the WtW Voucher program on these outcomes. We next describe the data sources and measures used in this chapter. We then discuss the baseline status of sample members with respect to their prior work and earnings and the experiences of the control group, which provide the context within which employment and earnings impacts can be understood. Then we present the findings on employment and earnings during the follow-up period. The final section discusses the implications of the findings, contrasting the hypothesized and estimated effects.

Summary of Findings

The WtW Voucher program was intended to improve long-run labor market outcomes for participants and their families by providing voucher recipients with the opportunity to relocate to neighborhoods that are safer and closer to jobs, and by giving participants additional resources with which to stabilize their families, help care for their children, and invest in education and training. In the short run, however, the program also creates incentives to work less. Economic theory predicts that income-conditioned subsidies such as housing vouchers, which simultaneously increase family resources and reduce the marginal returns to work through the benefit reduction rate, will reduce work effort.[51] The expected direction of effects on employment and earnings is, therefore, unknown.

One of the primary ways that vouchers may increase employment and earnings is by helping people relocate (or remain) closer to jobs and in neighborhoods where social norms are more supportive of employment. As we saw in Chapter Three, however, the neighborhood effects observed among WtW Voucher program participants were quite modest; therefore, we should not be surprised to find that the positive effects of voucher receipt on employment and earnings are small. In fact, the findings in this chapter provide evidence that program participation *reduced* employment rates and earnings amounts. Thus, it appears that, while program participants reaped a range of benefits from their voucher receipt, improved short-term employment outcomes were not among them. On balance the negative effects of vouchers on work incentives outweighed the positive effects, at least over the first seven quarters after random assignment. It should be noted, however, that these negative impacts were quite small: earnings were, on average, 12 – 14 percent lower among treatment group members who leased up than among non-crossover controls, while the amount of time spent employed over the period was 7 – 8 percent less.

[51] See Shroder (2002).

4.1 Hypotheses About Employment and Earnings

The stated goal of the WtW Voucher program is to improve the housing quality and location of participating families with children, to improve rates of employment and job retention, to reduce welfare dependency, and to increase self-sufficiency. The WtW Voucher program is expected to influence employment rates and earnings through a number of mechanisms.[52] Several of these mechanisms, however, apply only to program participants who used their vouchers to move to better neighborhoods (neighborhoods with lower poverty rates, higher employment rates, out of racially segregated minority neighborhoods.) Participants in the WtW Voucher experiment were not required to use their voucher to move—they could lease in-place—and those who did move were not required to move to neighborhoods that met any particular criteria. Therefore, we divide the mechanisms into three sets: those that apply to all program participants, those that apply only to program participants who move, and those that apply only to program participants who reside in better neighborhoods.

We first discuss the general mechanisms that apply to all program participants who lease up, regardless of their neighborhood characteristics:

1. Use of a housing voucher may increase the stability of the family, which may decrease stress and lead to an improved sense of control and ability to plan their lives. This may result in more active job search and, therefore, increased employment and earnings. Note that family stability is likely to be a long-term contributor to employment outcomes; it is less likely to have short-term effects.

2. Use of a housing voucher increases unearned income. Thus, standard economic theory predicts that hours worked will decline, as the pre-existing level of income can be maintained for less work (the income effect). That said, program participants who receive reduced rents may use their increased income to pursue educational or training opportunities, which may well improve earnings and other economic outcomes for the family *in the long run*. (For examples of participants using their additional resources to invest in education, training, and job search, see the qualitative research findings in Turnham et al. Chapter Four.) Participants may also use their increased leisure time to spend more time with their children, an outcome which is particularly important for families with young children.

3. Use of a housing voucher decreases the effective wage (the return to work), because the value of the housing voucher is decreased by 30 cents for every dollar increase in a voucher recipient's wage—in other words, work doesn't pay as well. Thus, standard economic theory predicts that hours will decline (the substitution effect).[53]

[52] Several of these mechanisms (and others not discussed here) are described in more detail in Shroder (2002).

[53] Again, see Shroder (2002) for a discussion and critique of mechanisms (2) and (3).

Two mechanisms apply to those program participants who lease up and move:

4. Residential relocation may lead to temporary disruptions in earnings and employment for persons who were already working and need to take time off for housing search and relocation. Voucher recipients who were engaged in job search may suspend their job search in order to search for housing and then relocate. Results from the qualitative interviews suggest that this latter mechanism was important for some voucher recipients.

5. Residential relocation may disrupt pre-existing social support networks that are important sources of informal childcare and labor market information and connections, with resultant negative effects on employment and earning. These disruptions could reduce employment and earnings until new social networks have been established.

Finally, several mechanisms apply to program participants who used their vouchers to reside in better neighborhoods (neighborhoods with lower poverty rates, higher employment rates, lower minority concentration) through either a move or stay:[54]

6. Residing in areas with lower unemployment rates and faster job growth may result in higher employment and earnings for program participants, and may lead to jobs with better wages and fringe benefits.

7. Residing in areas close to potential sources of employment may reduce job search costs and, once the participant is employed, may reduce commuting costs. This may lead to increased employment and earnings and reduced reservation wages. If this leads to a broader range of employment opportunities, it may also increase wages and fringe benefits.

8. Community norms in lower-poverty neighborhoods may be more supportive of work and less supportive of welfare. To the extent that recipients feel increased pressure to work and leave welfare, this might increase job search, employment, and earnings.

9. Residing in a safer neighborhood may decrease family stress and improve mental health, enabling more active job search and longer job retention, therefore, increased employment and earnings.

10. Residing in a better neighborhood could result in improved physical health, either through reductions in environmental hazards or through access to better local health care. Improved health facilitates a more active job search and represents an increase in human capital through lower rates of absenteeism and other channels; for these reasons improved health could result in improved job prospects.

[54] These mechanisms are essentially the same as those listed under the section "Hypotheses about Employment and Earnings in MTO" in the Moving to Opportunity Final Report, Orr, *et al*. (2003), pages 123 -124.

Of the three mechanisms that apply to all program participants, two predict a decrease in employment and earnings, and one predicts an increase in employment and earnings. Both of the mechanisms that apply to all movers predict a decrease in employment and earnings. It is only when we turn to the mechanisms that apply specifically to program participants who came to reside in better neighborhoods would we unambiguously predict increases in employment and earnings. Therefore, we would expect favorable outcomes (increased levels of employment and earnings) only to the extent that a high percentage of treatment group participants came to reside in better neighborhoods, and/or where the difference in quality between treatment group neighborhoods and control group neighborhoods was large. As seen in Chapter Three, even for those treatment subgroups that did come to reside in somewhat better neighborhoods, the treatment-control difference in neighborhood quality by the end of the follow-up period was very slim. The findings from Chapter Three suggest that the positive mechanisms associated with residential location are unlikely to outweigh the negative mechanisms associated with program participation.

4.2 Data Sources and Measures

Administrative data from UI records on the quarterly earnings of sample adults were collected from four states: Georgia, California, Texas, and Washington. These data made it possible to analyze employment and earnings outcomes for the six WtW Voucher evaluation sites: Atlanta, Augusta, Fresno, Houston, Los Angeles, and Spokane. Earnings data were requested from all sites for a period beginning one year prior to random assignment, through the third quarter of 2002.

As discussed in Chapter One, delays in the implementation of the program in Los Angeles led to a much later period of random assignment at that site. Random assignment took place in April- May 2001 in Los Angeles, while in all other sites random assignment was completed by December 2000. As a result, UI records were available for only five quarters after random assignment in Los Angeles (2001:3, 2001:4, 2002:1, 2002:2, and 2002:3). For all other sites, at least seven quarters of follow-up data are available. Because of this, all impact estimates are presented in two sets of outcomes: through five quarters for all sites and through seven quarters for five sites (all sites except Los Angeles).[55]

For the two basic outcomes analyzed in this chapter – employment and earnings – we constructed the following measures:

[55] Note that all impact regressions presented in this report control for site effects through the inclusion of site dummies in the list of covariates. These dummies control for average differences in the outcome variables across sites. Site-by-site regressions—where each site is treated as a separate subgroup, allowing the *treatment impact* to vary by site—are presented in Appendix Exhibits E.3 and E.4. Appendix Exhibit E.3 shows that for one of the outcomes studied (total number of quarters employed) there is a significant treatment effect in Los Angeles, which is of a different direction than the treatment effects in the other sites. (For all other outcomes, Los Angeles does not show significant effects that are of different sign than the other sites.) It is important, therefore, that the reader bear in mind these differences in the sample when comparing the five-quarter and seven-quarter results. To facilitate correct interpretation of the results, we have always presented the time-series for the five-quarter and seven-quarter impacts side-by-side, clearly labeled with the sites that are included in each sample.

- For employment, quarterly impacts are estimated for the dichotomous (yes / no) outcome, whether the sample member was employed at any time during the quarter. We based this outcome on whether UI earnings were positive in the quarter. We also constructed two measures of total employment over the entire follow-up period: total number of quarters employed through the fifth quarter (for all sites), and total number of quarters employed through the seventh quarter (for all sites except Los Angeles).

- For earnings, quarterly impacts were estimated for dollar earnings during the quarter. Two measures of earnings over the entire follow-up period were also constructed: earnings summed over the first five follow-up quarters (for all sites) and total earnings summed over the first seven quarters (for all sites except Los Angeles).

Note that state UI wage records are an accurate source of followup data on participant earnings in a multi-site (and multi-state) evaluation such as this. Employer-reported quarterly earnings records are maintained by employment security agencies in all states for the purpose of calculating unemployment compensation benefits for insured workers who become unemployed. UI wage records have some acknowledged limitations, however: failure to cover certain industries and out-of-state jobs, some non-reporting by employers, and lack of detail on hours worked and the within-quarter timing of employment.

4.3 Baseline Employment and Earnings Status of the Sample

In this section we discuss the baseline labor force characteristics of the sample and provide information about the employment and earnings experiences of the control group. This background information provides a context for understanding the trends and magnitudes of program impacts on the treatment group.

Baseline Characteristics

As reported in the baseline survey, at the time of random assignment, 44 percent of sample members were working for pay. At the same time, 37 percent were looking for work, 54 percent were keeping house or caring for children, and 17 percent were enrolled in school. (See Exhibit 1.2) There were no significant differences between treatment and control group members in any of these rates.

The overall employment rate in the quarter of random assignment (the "baseline quarter"), as measured by UI earnings data, is 50 percent. Because the baseline survey question asked about activities the sample member was engaged in "last week", it is understandable that a measure which captures any earnings over an entire quarter is somewhat higher. The fact that the UI data are cumulative over a quarter may offset the fact that UI data do not capture informal and uncovered labor.

Sample member earnings in the baseline quarter averaged $1,028, including persons with no earnings. Among sample members with earnings, average earnings in the baseline quarter were $2,063. Earnings rates among sample members at work were similar to national averages for welfare recipients, while employment rates in the sample were higher than the national average, reflecting the fact that not all of our sample members were current welfare beneficiaries.[56]

Employment and Earnings by Quarter for the Control Group

Impacts are measured as the average outcomes for the treatment group minus the average outcomes for the control group[57]. The control group's experience over time, therefore, represents the standard against which outcomes for the treatment group are evaluated. We present the trends over time for the control group first, so that the reader has a context for interpreting the treatment group impacts.

The administrative data show an upward trend in earnings for control group members. This is not surprising, as current or prior TANF eligibility or receipt, which is a function of low earnings, was a requirement for program participation. As a result, persons applying for the program were likely to have earnings and income that were temporarily lower than average. Participants were likely trending back to their permanent income status over time. Indeed, we see (in Exhibit 4.1) that the upward trend in earnings for participants seems to level off around one year after random assignment, consistent with the concept that participants have returned to their permanent income level.

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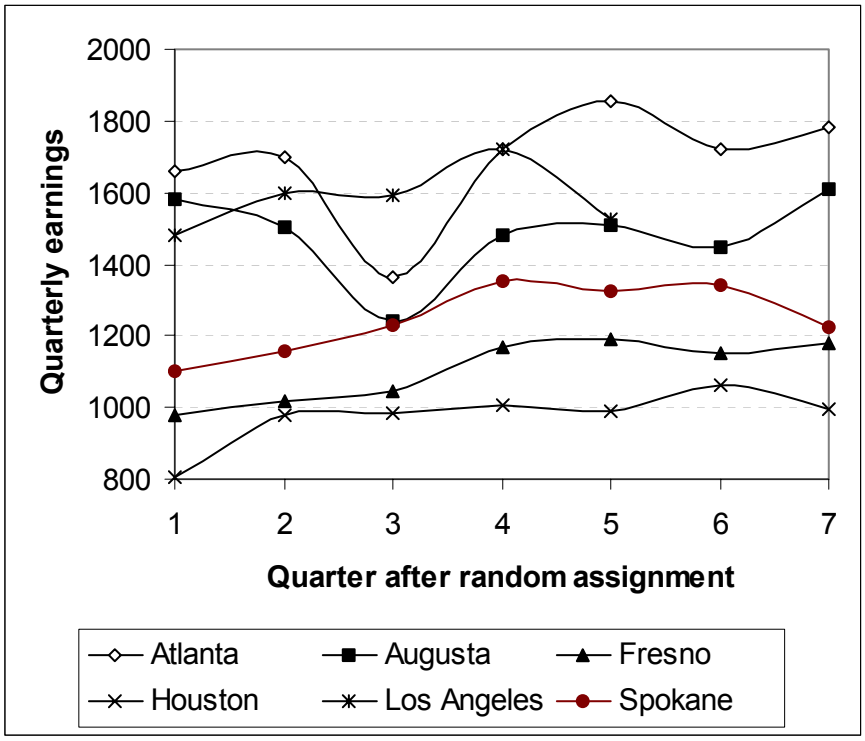
[56] For example, among all adults receiving TANF in Fiscal Year 2001, 24.3 percent had earned income, and those with earned income earned $686 per month, or $2,058 per quarter; thus, the average among working and non-working recipients was $500 of earned income per quarter. See Office of Family Assistance, "Fiscal Year 2001 Characteristics and Financial Circumstances of TANF Recipients." Website: http://www.acf.hhs.gov/programs/ofa/character/FY2001/characteristics.htm.

[57] Impacts presented are actually regression-adjusted differences between the treatment and control groups, not simple means, to control for chance variation in baseline characteristics between the groups.

Exhibit 4.1
Earnings by Quarter and by Site for the Control Group

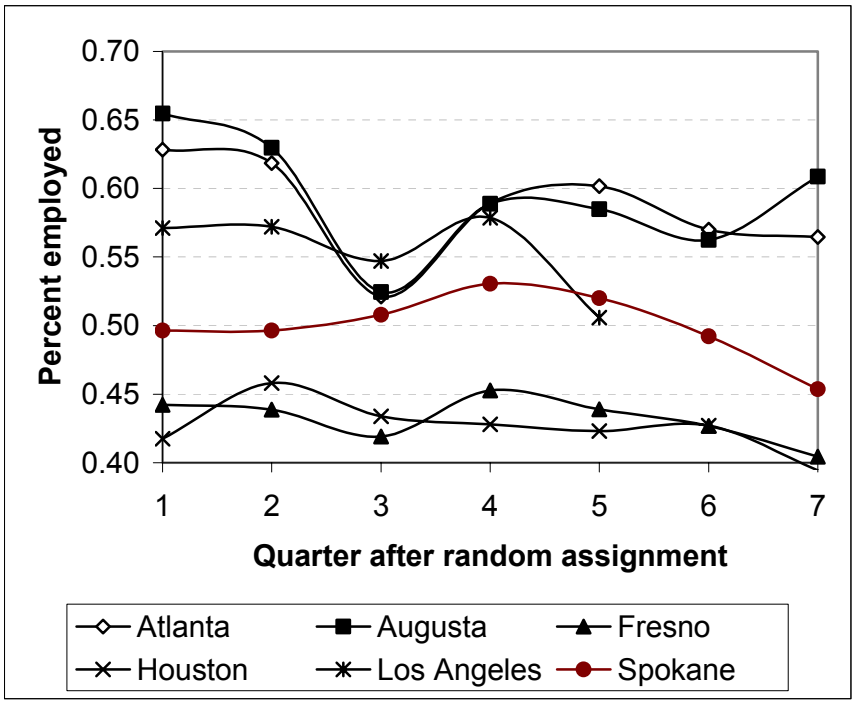


Employment rates (defined here as the percentage employed at any time during the indicated quarter) show a somewhat different pattern. (See Exhibit 4.2.) Employment rates are roughly constant for the first five quarters after random assignment and then decline slightly in the last two quarters. The graphs indicate a slight dip in both employment and earnings in the third follow-up quarter in both of the two Georgia sites. (This decline resulted from a lower match-rate between the survey sample and the Georgia UI records in calendar quarter 1 of year 2001.)[58] Note that the two California sites required that applicants be working to receive a WtW voucher; therefore, the higher employment rate in quarter 1 than in quarters 6 and 7 could be a reflection of program requirements, which were no longer binding after a voucher had been received and used.

Although Los Angeles is not reflected in the slight decline in quarters 6 and 7, Fresno showed a decline in employment from 44 percent at quarter 1 to 40 percent at quarter 7. It should also be noted that there is evidence of a poorer match between the UI data and the survey sample in Los Angeles in follow-up quarter 5, an issue discussed in Appendix D. This data quality problem may drive the apparent drop in the employment rate in Los Angeles in the fifth quarter.

[58] In follow-up research, we will obtain information from the state of Georgia Department of Labor about possible sources of, and corrections to, this decline.

Exhibit 4.2
Employment Rates by Quarter and by Site for the Control Group



4.4 Impacts on Employment and Earnings

Impacts on Employment

Exhibit 4.3 presents two sets of estimated impacts on employment rates: impacts over five quarters of follow-up for all sites, and impacts over seven quarters of follow-up for all sites except Los Angeles. As discussed in Chapter One, we also present two types of impact estimates, Intent-to-Treat (ITT) estimates and Treatment-on-Treated (TOT) estimates. ITT estimates reflect the impact of treatment on the entire treatment group, compared with the entire control group. TOT estimates reflect the impact of the treatment on those treatment group members who leased up, controlling for the fact that some control group members (crossovers) also leased up and some treatment group members (nonparticipants) did not. Thus, the TOT results are estimates of the impact of the vouchers on those who used them, relative to receiving no housing assistance.[59] Both ITT and TOT estimates are regression-adjusted for baseline characteristics to take account of chance differences between the treatment and control groups.

[59] The TOT estimate is derived from the ITT estimate assuming that (a) the intervention had no effect on a family that did not use a voucher and (b) in any given quarter after lease-up, the voucher had the same effect on a control group member who leased up as on a treatment group member who leased up. (See Appendix A for details.)

Exhibit 4.3
Impacts on Quarterly and Total Employment

	All Sites			*All Sites Except Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.512	-0.022**	-0.063**	0.507	-0.030***	-0.086***
		(0.009)	(0.025)		(0.009)	(0.027)
Quarter 2	0.512	-0.010	-0.001	0.505	-0.013	0.000
		(0.009)	(0.023)		(0.010)	(0.025)
Quarter 3	0.479	-0.013	-0.042*	0.472	-0.020**	-0.064**
		(0.010)	(0.025)		(0.010)	(0.027)
Quarter 4	0.511	-0.016*	-0.033	0.503	-0.022**	-0.042
		(0.010)	(0.025)		(0.010)	(0.027)
Quarter 5	0.495	-0.012	-0.026	0.492	-0.013	-0.026
		(0.010)	(0.025)		(0.010)	(0.027)
Quarter 6	--	--	--	0.479	-0.016	-0.043
		--	--		(0.011)	(0.027)
Quarter 7	--	--	--	0.457	-0.005	-0.010
		--	--		(0.010)	(0.027)
Total number of quarters employed over follow-up period	2.509	-0.073**	-0.165**	3.414	-0.118**	-0.271**
		(0.034)	(0.079)		(0.050)	(0.116)

Notes:
N = 8,664 for the regressions run on all sites. N = 7,662 for the regressions run on all sites except Los Angeles. "ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Impacts for all sites over five follow-up quarters reveal small, generally insignificant effects on employment in any given quarter, but a highly significant—though modestly sized—negative effect over all five quarters combined. Over all five quarters, control group members averaged 2.5 quarters of employment, and treatment group members averaged .07 fewer quarters, or 3 percent less time employed. The TOT estimates show that treatment group members who leased up averaged .165 fewer quarters—or 7 percent less time employed—than the control group.

Impacts over seven quarters (including all sites except Los Angeles) were statistically significant and negative in three of the seven follow-up quarters. That is, the treatment is associated with lower rates of employment; where significant, the employment rate in these quarters is about 2 to 3 percentage points lower for treatment group members than for control group members for the treatment group as

a whole (the ITT estimates), and 6 to 8 percentage points lower for treatment group members who leased up (the TOT estimates). There is no evidence that the treatment-control difference changes over time. Over all seven quarters, control group members averaged 3.4 quarters of employment, and treatment group members averaged 3.2 quarters. This cumulative difference is also statistically significant. The TOT impacts reveal the same pattern as the ITT impacts. Over seven quarters, treatment group members who leased up averaged .27 fewer quarters of employment, or 8 percent less time employed, than their counterparts in the control group.

Exhibits 4.4 and 4.5 provide visual illustrations of the program impacts on employment rates over time.[60] As can be seen in the graphs, the employment rates of both the treatment and control groups showed evidence of a slight decline over time, with treatment group members consistently having, on average, slightly lower employment rates than control group members.

Employment Impacts by Subgroup

Exhibit 4.6 presents the two sets of impacts on total quarters employed over the follow-up period (5 or 7 quarters) for 40 different (but often overlapping) subgroups. In this discussion, we concentrate on those results that were significant at a 95 percent confidence level or higher (indicated by two or three asterisks in Exhibit 4.6).

[60] TOT impacts are not presented in the visual illustration because of the complexity of presenting the appropriate counterfactual group.

Exhibit 4.4
Employment Rates: 5 Quarters (All Sites)

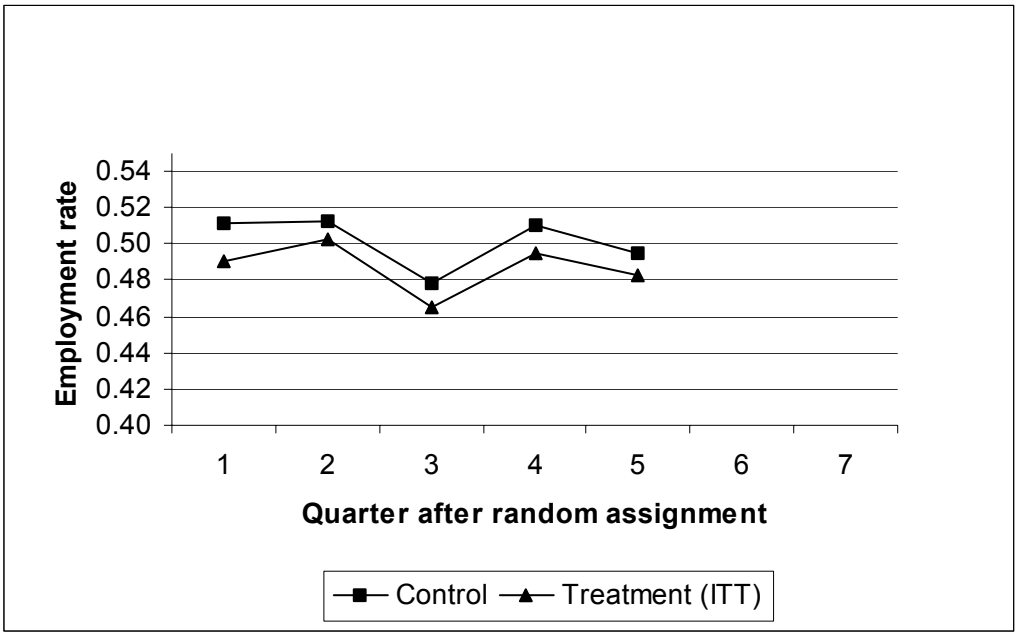


Exhibit 4.5
Employment Rates: 7 Quarters (All Sites Except Los Angeles)

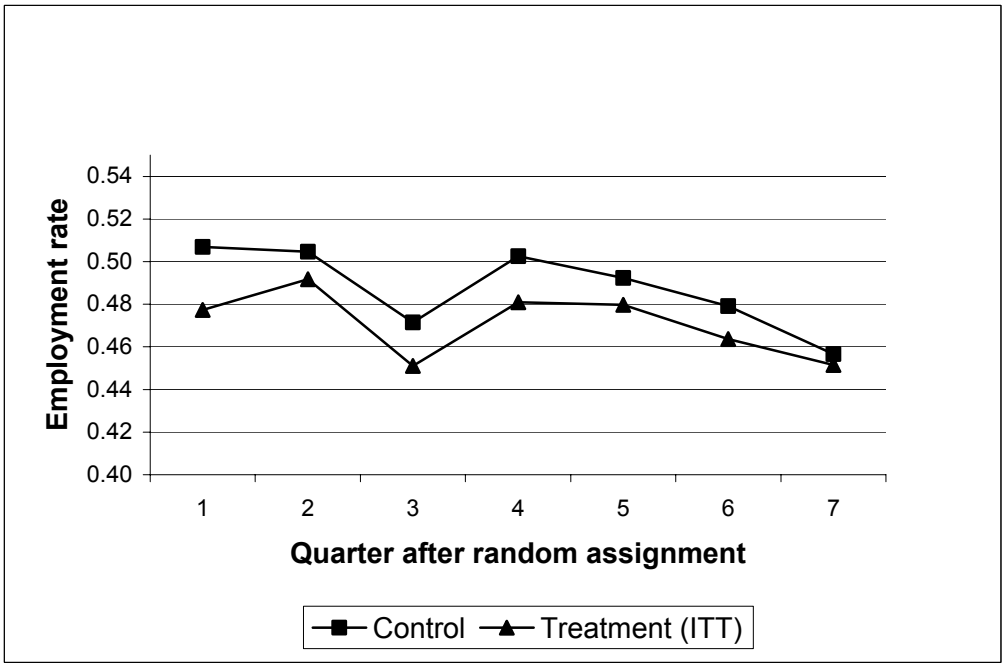


Exhibit 4.6
Impacts by Subgroup on Number of Quarters Employed

Subgroup	*Through Quarter 5, All Sites* Sample Size	Control Mean	TOT Impact	*Through Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	TOT Impact
Age 24 and under	2605	2.708	-0.233 *	2522	3.742	-0.347 **
Age 25 – 34	3270	2.611	-0.211 *	2958	3.588	-0.311 *
Age 35 – 44	2015	2.428	-0.198	1555	3.131	-0.250
Age 45 and older	683	1.718	0.105	510	1.885	0.177
Any dependent children	7682	2.578	-0.192 **	6713	3.515	-0.323 ***
No dependent children	811	1.954	-0.067	751	2.643	0.109
Age of youngest person in household is less than 6 years	5529	2.537	-0.187 **	5104	3.526	-0.316 **
Age of youngest person in household is 6 - 17 years	2725	2.498	-0.081	2155	3.245	-0.115
Age of youngest person in household is 18 years or more	410	2.229	-0.357	363	2.907	-0.046
White, non-Hispanic	1551	2.549	-0.294	1243	3.536	-0.507 *
Black, non-Hispanic	2955	2.852	-0.257 **	2669	3.867	-0.412 **
Hispanic	1792	2.375	0.016	1610	3.199	0.024
Working at baseline[a]	3794	3.524	-0.012	3068	4.794	-0.152
Not working at baseline[a]	4420	1.726	-0.319 ***	4124	2.494	-0.394 ***
Ever worked at baseline	7253	2.734	-0.177 **	6341	3.696	-0.290 **
Never worked at baseline	1220	1.328	-0.172	1105	1.992	-0.266
Employed (reservation wage not asked)	3794	3.524	-0.012	3068	4.794	-0.152
Reservation wage is 3 - 5.99	253	1.677	1.092 **	242	2.480	1.165
Reservation wage is 6 - 8.99	2265	2.327	-0.309 **	2138	3.238	-0.481 **
Reservation wage is 9 - 12.99	1078	2.538	-0.251	921	3.523	-0.370
Reservation wage is 13 - 15.99	301	2.541	-0.109	231	3.509	-1.168

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10

[a] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 5 differ significantly by subgroup at p<.10.

Exhibit 4.6 (*Continued*)
Impacts by Subgroup on Number of Quarters Employed

	Through Quarter 5, All Sites			*Through Quarter 7, All Sites Except Los Angeles*		
	Sample Size	**Control Mean**	**TOT Impact**	**Sample Size**	**Control Mean**	**TOT Impact**
Enrolled in a job training program[a]	1089	2.544	-0.096	995	3.516	-0.180
Enrolled in, but has not yet started, a job training program[a]	593	2.096	-0.776***	564	2.899	-0.829**
Not in a job training program[a]	6777	2.577	-0.151*	5885	3.492	-0.276**
Enrolled in school	1406	2.569	-0.108	1228	3.666	-0.276
Not enrolled in school	6733	2.497	-0.199**	5939	3.366	-0.273**
High school diploma	3382	2.899	-0.018	2828	4.008	-0.146
GED (but no high school diploma)	1475	2.667	-0.290	1404	3.628	-0.333
Neither a HS diploma nor GED	3017	2.140	-0.287**	2713	2.846	-0.369**
On TANF at baseline	6574	2.311	-0.140	5621	3.110	-0.265**
Not on TANF at baseline	1612	3.147	-0.255	1541	4.289	-0.161
Not on TANF	1612	3.147	-0.255	1541	4.289	-0.161
TANF expires within 6 months	1016	2.445	-0.306	965	3.309	-0.319
TANF expires in 6 - 12 months	542	2.357	0.142	491	3.284	0.050
TANF expires in 12 - 18 months	378	2.125	-0.077	353	3.052	-0.346
TANF expires in > 18 months	705	2.150	-0.547*	658	3.034	-0.922**
Desires to move for employment reasons	1237	2.739	-0.347*	1121	3.775	-0.535*
Does not desire to move for employment reasons	7272	2.469	-0.151*	6360	3.350	-0.241**
Rents or owns apartment or house[a]	4932	2.506	-0.007	4068	3.412	-0.141
Lives with friends or relatives[a]	2203	2.556	-0.495***	2100	3.429	-0.576***
Public or other assisted housing[a]	1091	2.776	-0.482**	1046	3.793	-0.557*
Homeless shelter, transitional housing[a]	207	1.784	0.249	195	2.485	0.361

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10

[a] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 5 differ significantly by subgroup at p<.10.

For all sites over five quarters, there are significant negative impacts for a total of eleven subgroups, and one subgroup with a significant positive impact. For all sites except Los Angeles, aggregating over seven quarters of data, there are significant negative employment impacts for a total of fifteen subgroups, and no subgroups with significant positive impacts.

In viewing the pattern of statistically significant estimates by subgroup, it is important to note that sample sizes, and therefore the precision of the estimates, varied widely across subgroups. This means that an impact that would be detected as statistically significant for one subgroup may not be significant for another, smaller, subgroup. Thus, differences in statistical significance across subgroups reflect differences in sample sizes, as well as differences in true impact. In general, we found statistically significant impacts in the largest subgroups; this suggests that sample sizes were an important factor in the determination of which subgroup impacts were statistically significant. In order to identify subgroups with impacts that were significantly different from one another, we also ran F-tests on the joint significance of the subgroup impacts. The F-tests allow us to report with confidence whether a given set of subgroup effects were significantly different from each other.[61] For example, examining the race / ethnicity subgroups, we observe a significant treatment effect for blacks at the 5th quarter of follow-up, but not for whites or Hispanics. However, the F-test indicates that the subgroup impacts are not significantly different from one another. Therefore, while we *can* conclude that the treatment had a significant effect on blacks, we *cannot* conclude that the treatment effect was necessarily different from blacks than for whites or Hispanics.

We first discuss those sets of subgroups for which F-tests indicated that there were significant differences between the groups. We next discuss those individual subgroups for which we observed significant treatment effects, but where we do not have evidence that treatment effects differed within the relevant set of subgroups. We then summarize the pattern of subgroup findings we have observed.

The F-test results show that, after five quarters of follow-up, there are significantly different impacts within three sets of subgroups.[62] First, persons who were *not working* at baseline had significantly larger (more negative) impacts than those who were working. Second, baseline housing status was significantly associated with treatment effects; persons who lived with friends and relatives, and those who were in public or another form of assisted housing, both experienced significant negative impacts. In contrast, respondents who were living in their own unit experienced no significant treatment impacts on quarters of employment, while the small group of respondents who were in homeless shelters or other traditional housing may have experienced positive employment impacts, although the impact estimate for this group is statistically insignificant. Third, persons who were enrolled in—but had not yet started—a training program had significantly larger and more negative

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[61] It should be noted that the F-tests for the joint significance of the subgroup treatment effects were based on different models than the models that produced the results discussed here. The results presented in these chapters are derived from models run separately for each subgroup. The F-test results are derived from models run on the entire sample, where each subgroup was interacted with treatment in a combined model. In addition, the F-test results are based on the ITT estimates and standard errors, not the TOT estimates and standard errors.

[62] In addition, F-test results indicate significant site-differences in the treatment effect, with large and significant negative treatment effects in Houston and Spokane. See Appendix E for more detail.

impacts than other respondents. (Note that these results are for employment impacts after five quarters of follow-up. In the analysis of quarters of employment after seven quarters of follow-up, F-tests indicate no significantly different treatment effects within any of the sets of subgroups, possibly due to the smaller sample size at quarter seven.)

These results suggest that the negative treatment effects associated with the program are concentrated among two groups of respondents. First, persons who are less attached to (or more disadvantaged in) the labor market—those not working at baseline—experienced negative treatment effects. It may be that respondents who had poorer work histories were more likely to use their voucher to permit a respite from difficult, poorly paid jobs, while those who were more advantaged in the labor market did not. Second, it appears that the negative treatment effects were concentrated among those respondents who had strong incentives to use their voucher to *move* rather than to lease in-place. Unlike respondents who were living in their own unit at baseline, those who were living with friends or relatives, or who were in another form of assisted housing, had to move in order to use their voucher. To the extent that there are short-term disruptions to employment associated with moving, respondents who were able to lease in place were less likely to experienced negative treatment effects than those who used their voucher to move.

We turn next to the subgroup-specific findings. As discussed above, significant individual subgroup effects, in the absence of an F-test indicating that the subgroup impacts differ from one another, should not be taken as evidence that a particular subgroup has a *different* impact from the others. Nevertheless, it is useful to note which subgroups did experience significant impacts, and whether the pattern we observe fits with the hypotheses suggested above: that negative employment impacts are concentrated amongst respondents who are either relatively disadvantaged in (or unattached to) the labor market, and those who had the strongest incentives to move.

Examining the demographic characteristics of the sample, we find significant negative impacts among participants with any children in the household, and specifically among participants with a household member under six years old. The results suggest that participants in young families with pre-school age children at home are most likely to use their voucher to reduce employment. This finding is consistent with our hypothesis that respondents with labor market disadvantages are most likely to experience negative employment impacts. Nevertheless, depending on how these sample members use the additional time freed up by not working (e.g., spending more time with their children), this may well be a desirable outcome and will be a focus of attention in the upcoming participant survey.

Turning to labor market characteristics, we find relatively large and significant negative impacts among respondents with the least education – neither a high-school diploma nor a GED. We also find significant negative impacts among black participants; among those who were on TANF at baseline; and, specifically, among those whose TANF benefits were not due to expire for 18 months or more (7^{th} quarter only). All of these findings are consistent with the hypothesis that persons with greater labor market disadvantages experienced the strongest negative treatment effects. However, there are also a few individual subgroup impacts that are not consistent with this hypothesis. Among respondents who were not working at baseline, those with reservation wages in the $6 - $8.99 range show significant negative impacts; however, those with the *lowest* reservation wage ($3 - $5.99) show *positive* impacts in the 5^{th} quarter analysis. Furthermore, those who had a previous work history—

respondents who had *ever* worked as of the baseline survey—experienced significant negative impacts.

The relationship of training and education to program impacts is difficult to assess. As discussed above, there is evidence of reduced employment among the small group of participants who at baseline were *waiting* to start a training program. In the seven-quarter results, we also find negative impacts for persons who were not enrolled in a training program at all—thus, the conclusion seems to be that those who were enrolled *and participating* in a training program were less likely to experience negative treatment effects than those who were not enrolled, or those who were enrolled but had not yet started a training program. We also found significant negative employment impacts for the majority of respondents who were *not* enrolled in school. As a group, these findings do not permit conclusive inferences about whether participants were reducing employment to increase investments in education and training. The qualitative interviews conducted for this study, however, lend some evidence to support this proposition. Among the 43 treatment-movers interviewed, seven were in full-time school or job training activities at the interview, having been employed or unemployed at random assignment. No instances of this pathway were observed among the 13 treatment-stayers or the 19 control group members interviewed.[63] It will be important to pursue this question further in the follow-up survey.

To summarize, the overall picture from these analyses is that negative employment impacts appeared in many different subgroups, but appear for the most part to be concentrated among persons who are most disadvantaged in the labor market, and among persons who were most likely to use their voucher to move rather than to lease in place.

Impacts on Earnings

Exhibit 4.7 presents estimates of the impacts on earnings. All sites over five follow-up quarters show significant negative earnings impacts in four of the five quarters. The impact does not appear to grow or to fall over time, and the ITT impact (where significant) is between -$65 and -$85 dollars per quarter. The quarterly TOT impacts (where significant) averaged between $200 and $300 per quarter. Over five quarters of follow-up, treatment group members accumulated $324 less in earnings, on average, than did control group members, while treatment group members who leased up accumulated $763 less in earnings. Control group earnings over the five quarters averaged $6,375, so that the treatment group earnings overall were approximately 5 percent less in total, while earnings among treatment group members who leased up were approximately 12 percent less.

[63] See Turnham et al. (2002), p. 17.

Exhibit 4.7
Impacts on Quarterly and Total Earnings

	All Sites			All Sites Except Los Angeles		
	Control Mean	ITT Impact	TOT Impact	Control Mean	ITT Impact	TOT Impact
Quarter 1	$1201	-$85***	-$249***	$1150	-$96***	-$279***
		(27)	(80)		(29)	(86)
Quarter 2	1257	-51	-39	1204	-67**	-74
		(31)	(73)		(33)	(78)
Quarter 3	1222	-84**	-239***	1164	-99***	-271***
		(33)	(83)		(35)	89
Quarter 4	1340	-38	-29	1287	-61*	(-85)
		(34)	(87)		(36)	92
Quarter 5	1355	-66*	-207**	1322	-72*	(-204)**
		(37)	(91)		(39)	96
Quarter 6	--	--	--	1299	-68*	(-143)
		--	--		(39)	94
Quarter 7	--	--	--	1294	-56	(-153)
		--	--		(41)	106
Total, all quarters	6375	-324**	-763**	8720	-519***	(-1209)***
		(131)	(301)		(196)	(457)

Notes:
N = 8,664 for the regressions run on all sites. N = 7,662 for the regressions run on all sites except Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

The seven-quarter estimates show a similar pattern of impacts. There are negative ITT impacts in six of the seven quarters and negative TOT impacts in three of the seven quarters, with some suggestion of a moderating negative impact over time. Over the first seven quarters, treatment group members overall earned an average of $519 (or approximately 6 percent) less than the $8,720 earned on average by control group members, while the TOT results show that treatment group members who leased up earned an average of $1,209 (or approximately 14 percent) less than the control group.

Exhibits 4.8 and 4.9 illustrate the program impacts on earnings over the follow-up period. As can be seen in the graphs, the earnings of the treatment group did not decline in absolute terms; they actually rose modestly over time, but remained consistently lower than the earnings of the control group.

Exhibit 4.8
Quarterly Earnings: 5 Quarters (All Sites)

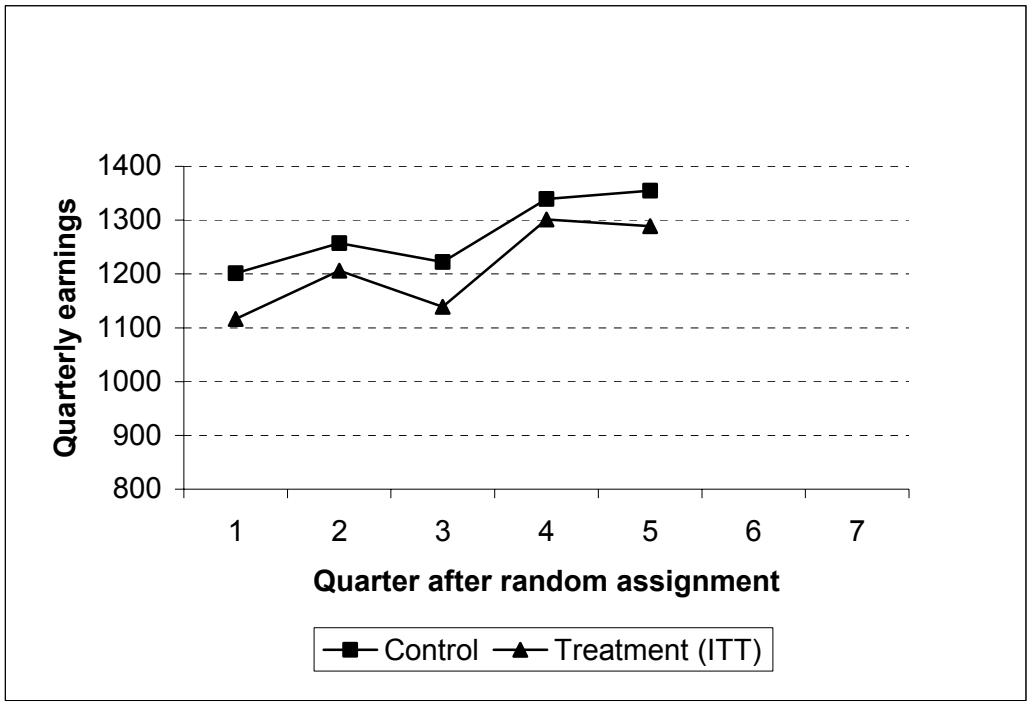
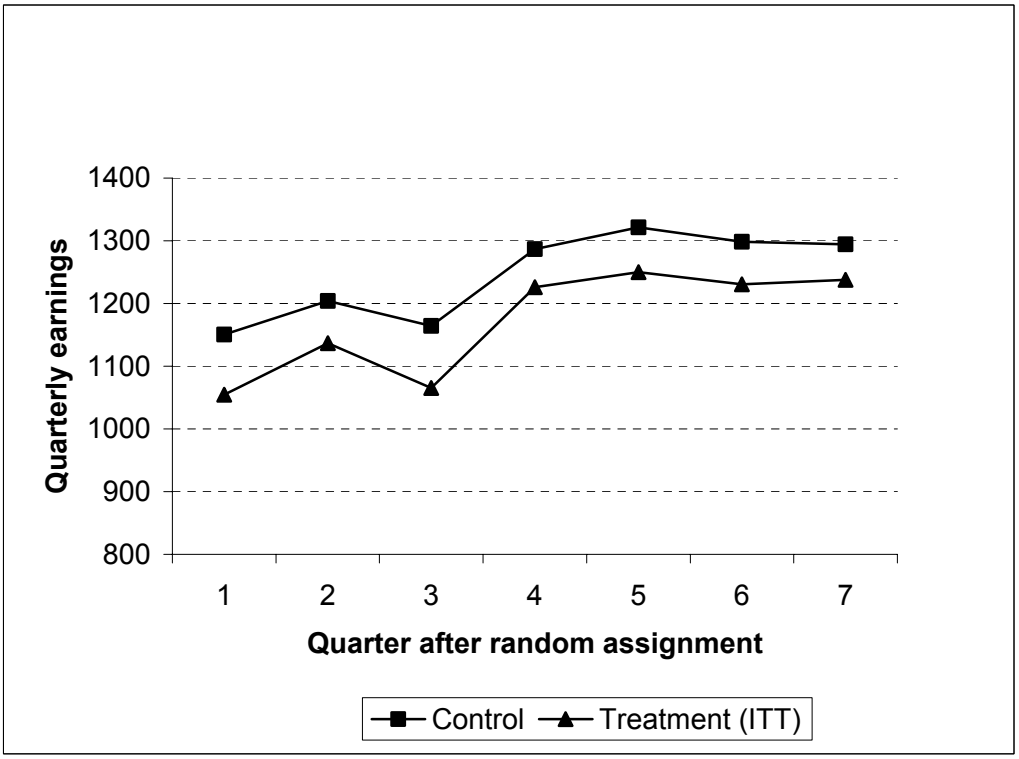


Exhibit 4.9
Quarterly Earnings: 7 Quarters (All Sites Except Los Angeles)



Impacts on Earnings by Subgroup

Exhibit 4.10 shows impacts on earnings for subgroups. There are only two sets of subgroups for which F-tests indicate significant differences across the groups. First, respondents who desired to move for employment reasons experienced much larger negative earnings impacts than those who did not desire to move at baseline. Secondly, respondents with dependent children experienced much larger negative earnings impacts than those with no dependent children. (The F-test on this latter result, however, is only significant at the 7th quarter and not at the 5th quarter.)

These findings are consistent with the hypothesis that respondents who had larger incentives to move were more likely to experience negative earnings and employment impacts. Respondents who desired to move at baseline were more likely to actually do so, and thereby to incur the temporary disruptions associated with relocation. The finding that respondents with dependent children experienced larger negative impacts is consistent with the hypothesis that those less attached to the labor market or with stronger competing demands on their time (e.g., parental responsibilities) were more likely to reduce their labor supply.

As in our analysis of employment, we turn next to findings of significant treatment effects for individual subgroups, to assess whether the patterns we observe are consistent with our expectations. As discussed above, significant individual subgroup effects, in the absence of an F-test indicating that the subgroup impacts differ from one another, should not be taken as evidence that a particular subgroup has a *different* impact from the others.

Not surprisingly, many of the subgroups that experienced significant treatment effects for the employment outcomes also experienced significant treatment effects for the earnings outcomes. In both the five-quarter and seven quarter analyses, thirteen of the forty subgroups had significant earnings impacts—all were negative.

Among the subgroups defined by demographic characteristics, we found significant earnings impacts among persons aged 25 to 34, and among persons with any dependent children. The relationship of age of youngest child to treatment effects was unclear, with different results in the five and seven-quarter analyses.

Turning to subgroups defined by labor market characteristics, we observe that respondents who were not working at baseline had significant negative earnings impacts, as did respondents who were on TANF at baseline, and those with neither a high-school diploma or a GED (in the 5th-quarter regressions), or those who had just a GED (7th-quarter regressions.) These findings are consistent with the hypothesis that respondents who were more disadvantaged in the labor market experienced stronger impacts. However, we also observe that respondents with any work history (those who had *ever* worked at baseline) had significant negative impacts.

Exhibit 4.10
Impacts by Subgroup on Total Earnings

Subgroups	*Through Quarter 5, All Sites* Sample Size	Control Mean	TOT Impact	*Through Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	TOT Impact
Age 24 and under	$2,605	$5,939	-$612	$2,522	$8,448	-$993
Age 25 - 34	3,270	7,011	-1,015**	2,958	9,759	-1,718**
Age 35 - 44	2,015	6,606	-1,123	1,555	8,545	-1,329
Age 45 and older	683	4,848	-592	510	5,143	797
Any dependent children[a]	7,682	6,652	-927***	6,713	9,125	-1,468***
No dependent children[a]	811	4,173	198	751	5,637	931
Age of youngest person in household is less than 6 years	5,529	6,241	-649*	5,104	8,808	-1,151**
Age of youngest person in household is 6 - 17 years	2,725	6,820	-957*	2,155	8,889	-1,421*
Age of youngest person in household is 18 years or more	410	5,277	-3,098**	363	6,676	-592
White, non-Hispanic	1,551	6,607	-987	1,243	9,199	-1,419
Black, non-Hispanic	2,955	7,021	-461	2,669	9,564	-1,209
Hispanic	1,792	6,060	-624	1,610	8,113	-496
Working at baseline	3,794	10,234	-957*	3,068	13,982	-1,527*
Not working at baseline	4,420	3,400	-677**	4,124	5,214	-1,032**
Ever worked at baseline	7,253	7,128	-881**	6,341	9,669	-1,272**
Never worked at baseline	1,220	2,428	-153	1,105	3,929	-761
Employed (reservation wage not asked)	3,794	10,234	-957*	3,068	13,982	-1,527*
Reservation wage is 3 - 5.99	253	3,292	1,736	242	5,072	1,130
Reservation wage is 6 - 8.99	2,265	4,694	-1,046**	2,138	6,781	-1,432**
Reservation wage is 9 - 12.99	1,078	6,074	-787	921	8,638	-969
Reservation wage is 13 - 15.99	301	6,629	-2,125	231	9,301	-4,469

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10

[a] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 7 differ significantly by subgroup at p<.10.

Exhibit 4.10 *(Continued)*
Impacts by Subgroup on Total Earnings

Subgroup	*Through Quarter 5, All Sites* Sample Size	Control Mean	TOT Impact	*Through Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	TOT Impact
Enrolled in a job training program	$1,089	$5,782	-$37	$995	$8,518	-$1,025
Enrolled in, but has not yet started, a job training program	593	4,300	-2,103**	564	6,340	-2,942**
Not in a job training program	6,777	6,752	-820**	5,885	9,116	-1,138**
Respondent is enrolled in school	1,406	6,081	110	1,228	9,024	-$571
Respondent is not enrolled in school	6,733	6,431	-997***	5,939	8,662	-1,308***
High school diploma	3,382	8,303	-755	2,828	11,526	-1,213
GED (but no high school diploma)	1,475	6,611	-1,152	1,404	9,280	-2,316**
Neither a HS diploma nor GED	3,017	4,575	-888**	2,713	6,036	-1,007*
On TANF at baseline	6,574	5,494	-718**	5,621	7,388	-1,202***
Not on TANF at baseline	1,612	9,227	-1,460	1,541	12,557	-1,396
Not on TANF	1,612	9,227	-1,460	1,541	12,557	-1,396
TANF expires within 6 months	1,016	6,109	-1,714*	965	8,329	-2,349*
TANF expires in 6 - 12 months	542	5,485	-395	491	7,799	-160
TANF expires in 12 - 18 months	378	4,786	-2,113*	353	7,112	-3,079*
TANF expires in > 18 months	705	4,323	-701	658	6,452	-2,086
Desires to move for employment reasons[a]	1,237	7,249	-2,378***	1,121	10,163	-3,780***
Does not desire to move for employment reasons[a]	7,272	6,224	-561*	6,360	8,463	-769
Rents or owns apartment or house	4,932	6,762	-638	4,068	9,154	-1,008*
Lives with friends or relatives	2,203	5,858	-837	2,100	8,183	-1,430*
Public or other assisted housing	1,091	6,780	-2,240**	1,046	9,390	-2,742**
Homeless shelter, transitional housing	207	3,522	890	195	5,363	-239

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10

[a] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 5 differ significantly by subgroup at p<.10.

Looking at the relationship of training and education to treatment effects, we once again find strong negative impacts among persons who were enrolled in, but had not yet started, a job training program. However, we also find significant negative impacts among those who were not enrolled in a training program at all; and among respondents who were *not* enrolled in school. These results suggest that active participation in education or training program may be associated with an absence of negative impacts, but the results are not conclusive. It will be useful to examine this issue further in the follow-up survey.

Finally, we found that respondents who resided in public or other assisted housing at baseline experienced large and significant negative earnings impacts, parallel to the results for this group for employment. This finding is consistent with the hypothesis that persons with the strongest incentives to move were more likely to experience transitory disruptions to earnings; however, it is interesting that we do not observe significant earnings impacts for respondents who were living with friends or relatives at baseline.

As with employment impacts, the overall pattern we observe when examining earnings impacts by subgroup is that negative earnings impacts seem to be concentrated among participants who are the most disadvantaged in the labor market – those who are less educated, unemployed, on TANF, and have dependent children. However, negative impacts are found in many groups, and are not exclusively located among those with the most labor market disadvantages.

In sum, the WtWV treatment appears to have produced significant negative impacts, relative to the control group, on both total quarters of employment and total earnings over the follow-up period. That said, it should be noted that the negative impacts are fairly modest—averaging 6-8 percent of the control employment rate and 12-14 percent of control earnings for those who used the vouchers.

The overall earnings and employment impacts are observable in both the five-quarter and seven-quarter analyses, although the impacts are generally stronger, and more subgroup impacts are detected, in the seven-quarter analyses. Impacts may be more evident in the seven-quarter analyses simply because those estimates exclude Los Angeles. As mentioned earlier in this chapter, the Los Angeles UI data are significantly "noisier" than the UI data from any other sites, and the estimates excluding Los Angeles are therefore likely to be more precise. The fact that we found little evidence of increasing impacts over time suggests that the difference between the five-quarter estimates and the seven-quarter estimates has more to do with the presence or absence of Los Angeles in the sample than the two additional quarters of exposure to the intervention.

4.5 Interpretation of Results

The WtW Voucher program has not yet generated increases in employment or earnings among participants; indeed, participants have experienced statistically significant, if modest, reductions in overall earnings and overall employment rates.

These results are not inconsistent with our expectations, discussed in section 4.1, given the fairly small differences in neighborhood characteristics between treatment group and control group members. It seems probable that the potentially favorable employment impacts of the program—

many of which operate through the beneficial effects of residing in a better neighborhood and closer to employment—were outweighed by the economic disincentives to work (added unearned income and a lower effective wage rate) and by the transitional disruptions associated with moving.

Although some of the economic disincentive effects associated with the program will last for the duration of voucher receipt, the disruptions associated with moving are short-term. For example, moving poses only a temporary disruption to job search, employment, and social networks. In contrast, *all* of the program mechanisms favorable to employment are long-term, and all are likely to take considerable time before they have a significant impact on behavior. For example, easier access to employment is likely to produce a more intensified and more productive job-search; but an intensified job-search takes time before it is translated into employment and earnings. For persons already employed, the beneficial effects of moving to or remaining in a better neighborhood – in particular, access to better jobs – may well take even longer to appear, as the economic pressure to change jobs is substantially weaker than the economic pressure to find a job in the face of unemployment. It seems likely, therefore, that the positive mechanisms associated the WtW Voucher program (in employment and other domains) will continue to influence participant behavior over time, while some of the transitory negative mechanisms will cease to be important.

The results of the qualitative evaluation of the WtW Voucher program are consistent with these findings of reduced employment among treatment group members. The qualitative evaluation also provides some supplemental information about how some voucher recipients are using their additional resources, and hence suggests some hypotheses about the likely long-term impacts of the program. Among respondents who had transitioned from employment to unemployment, the most common reason cited was the need to take care of their children. A smaller number had started full-time school or intensive job-training programs, or were struggling to transition into new careers. These experiences suggest that, for many families, the long-term effects of the WtW Voucher program may be manifested in greater family stability and improved outcomes for children. For a smaller number of participants, longer-term investment in educational attainment and skills may result in improved employment and earnings. These possibilities will be explored in greater detail in the analysis of the WtWV follow-up survey.

Chapter Five
Impacts on Cash Assistance and Food Stamps

This chapter presents the impacts of the WtW Voucher (WtWV) treatment on receipt of Temporary Assistance for Needy Families (TANF) benefits and Food Stamp benefits. We start by presenting our hypotheses about the mechanisms through which the WtWV program might be expected to affect welfare benefits. We next describe the data sources and measures used in this chapter. We then discuss the context of the analysis, in terms of the baseline welfare status of sample members and the experience of the control group with respect to use of TANF and Food Stamps over the follow-up period. Then we present our impact estimates for these outcomes. The final section discusses the implications of the findings and the relationship between observed outcomes and our hypotheses.

Summary of Findings

Consistent with the finding of negative program impacts for employment and earnings, we found substantial evidence that the amounts of both TANF and Food Stamp benefits received over the follow-up period were significantly higher for the treatment group than for the control group. These findings are not surprising, as lower employment rates and earnings are expected to produce higher welfare receipt. While we found positive impacts on public assistance, it should be noted that these impacts were quite small (for example, treatment group members who leased up spent 8 – 9 percent more time receiving TANF than controls who did not lease up.) It should also be noted that overall TANF and Food Stamp receipt declined over the period of observation, just as overall employment and earnings increased.

5.1 Hypotheses About Cash Assistance and Food Stamps

One of the central goals of the WtWV program is to reduce welfare dependency and increase self-sufficiency among participating families. Note that receipt of a WtW Voucher does not, in itself, reduce eligibility for TANF or Food Stamp benefits, as the rent subsidy is not counted as income by the state TANF agencies. The primary vehicle through which the program affects welfare receipt is through its impacts on employment and earnings; the impacts of the WtWV program on welfare benefits, then, are likely to be the mirror image of the impacts on employment and earnings. As seen in Chapter Four, the WtWV program was associated with reduced employment and earnings. Therefore, we should expect the WtWV program to increase the receipt of welfare benefits.

The expected mechanisms through which the WtWV program can affect cash assistance are very similar to those presented in Chapter Four. To summarize, the mechanisms relevant to cash assistance are:

- The economic disincentive effects of voucher receipt (the income and substitution effects listed as mechanisms 2 and 3 in Chapter Four) may produce declines in employment and earnings, and thereby increase welfare eligibility and participation.

- Increased stability of the family budget may produce reduced stress, a greater sense of control among participants over their finances and life (mechanism 1 in Chapter Four), and as a result may encourage more active job-search, which in turn could produce increases in employment and earnings, and thereby decrease welfare eligibility and participation.

- For those families who move, the disruptions associated with residential relocation (temporary disruptions in job-search, employment, and earnings, and disruptions in social support networks) may produce decreases in employment and earnings, and thereby increase welfare eligibility and participation. (Mechanisms 4 and 5 in Chapter Four.)

- Residing in neighborhoods with higher employment rates and closer proximity to jobs could increase employment and earnings, through easier access to new or better jobs, social norms that mitigate against welfare dependency, decreased stress, and improved mental and physical health. These impacts would, thereby, decrease welfare eligibility and participation. (Mechanisms 6 – 10 in Chapter Four.)

- An additional mechanism that is particularly relevant to receipt of public assistance is the relationship of housing assistance to household composition. Receipt of housing assistance may permit multigenerational or extended family households to break into smaller units (most likely based on the nuclear family). In addition, receipt of housing assistance may permit recipients to exit stressed relationships, either breaking up nuclear family units (where a recipient separates from the father of her children) or breaking up relationships with "other" adults—a partner who is not the children's father. Smaller family units will generally be eligible for fewer welfare benefits, although per-person assistance may be unchanged. However, a participant who uses her voucher to become a single parent may well find herself eligible for increased benefits, particularly if she separates from a partner who was earning income.

As discussed in Chapter Four, several of these mechanisms associated with program participation predict higher rates of welfare participation, while others predict lower rates, so that the predicted net effect of the program, a priori, is ambiguous. However, we know that the net effect of program participation on employment and earnings was negative. Therefore, we should not be surprised to find program participation associated with higher rates of cash assistance and Food Stamp receipt.

5.2 Data Sources and Measures

Administrative data on TANF receipt and benefit amounts were obtained for all six sites from five TANF jurisdictions: State of Georgia (Atlanta and Augusta TANF data), State of Texas (Houston TANF data), Los Angeles County (LA TANF data), Fresno County (Fresno TANF data), and State of Washington (Spokane TANF data.) Administrative data on Food Stamp receipt and benefit amounts

were obtained for five sites from four TANF agencies: Georgia (Atlanta and Augusta TANF data), Texas (Houston TANF data), Los Angeles County (LA TANF data), and Washington (Spokane TANF data). Fresno County was unable to provide administrative records on Food Stamp receipt. Therefore, all analysis of Food Stamp receipt and benefit amounts is restricted to five sites.

State or county welfare agencies extracted the relevant TANF and Food Stamp case records, identifying cases that matched the sample file by social security number (SSN). We requested data on benefit amounts for any case in which our sample member was a part of the case, regardless of whether our sample member was the payee.[64] Administrative data providing earnings information were requested for a period covering one year prior to random assignment, through September 2002, from all sites. For consistency with the Chapter Four presentation, we have converted monthly TANF and Food Stamp data into quarterly outcomes.

As discussed in Chapter Four, delays in the implementation of the program in Los Angeles lead to a much later period of random assignment in that site. Random assignment took place in the second quarter of 2001 in Los Angeles, while in all other sites random assignment was complete by the end of calendar year 2000. As a result, TANF and Food Stamp records were available for only five quarters after random assignment in Los Angeles. In all other sites, at least seven quarters of data are available after the quarter of random assignment. Because of this discrepancy, all impact estimates are presented in two sets of outcomes: first, we present five quarters of quarterly impacts and results over the entire five-quarter follow-up period for all six sites. Next, we present seven quarters of quarterly impacts and results over the entire seven-quarter follow-up period for all sites except Los Angeles.

Two basic outcomes are analyzed in this chapter—TANF receipt and Food Stamp receipt—from which we have constructed a total of six quarterly measures and six aggregate measures. In each quarter, we have three receipt measures: any TANF receipt; any Food Stamp receipt; and any receipt of public assistance (defined here as either TANF or Food Stamps). Similarly, there are three value measures in each quarter: amount of TANF receipt; amount of Food Stamp receipt; and total amount of TANF and Food Stamps combined. In addition to these six quarterly measures, there are three aggregate receipt measures: the total number of quarters of TANF receipt over the follow-up period; the total number of quarters of Food Stamp receipt over the follow-up period; and the total number of quarters with any public assistance over the follow-up period. The aggregate value measures are: the total value of TANF received over the follow-up period; the total value of Food Stamps received over

[64] Most of the matches were straightforward. However, in one site (Fresno) the data provided to Abt Associates included multiple records per case and issue-date, suggesting a failure to match the data properly by SSN. To process these data, we were obliged to resort to name matching to ensure that we had selected the correct records. One consequence of this process was that, for those SSNs associated with multiple cases on a given date, we selected only those observations where our sample member was the payee. This decision rule, which was necessitated by data limitations, meant that a subset of the Fresno sample was matched only to welfare data for which they were the payee – thus biasing receipt rates and benefit levels towards zero. Fortunately, this bias does not affect treatment and control group members differently. A second consequence of this process is that the Fresno data will be noisier than the other sites. Because name matching is inevitably more inaccurate than simple matching based on SSNs, the Fresno match is likely to have introduced greater error into this dataset. This correction, however, was made to only a subset of the Fresno data.

the follow-up period; and the total value of public assistance received over the follow-up period. The aggregate measures are produced for both five quarters of follow-up and seven quarters of follow-up, with the former sample including participants from all sites and the latter sample including participants from all sites except Los Angeles.

5.3 Baseline Public Assistance Status of the Sample

This section provides context for the impact estimates in the next section. We first present baseline characteristics from both the baseline survey and administrative data for the full sample and then show the time path of welfare and food stamp receipt for the control group.

Baseline Characteristics

At the time of the baseline survey, 76 percent of the sample reported that they were currently receiving assistance from TANF. Eighty-four percent reported that they, or someone else in their household, were receiving Food Stamps. There were no baseline differences between treatment and control group members.

According to the administrative records, 75 percent of sample members were in a household that received TANF during the quarter of random assignment, and 78 percent of sample members (excluding Fresno) were in a household that received Food Stamps during the quarter of random assignment (see Exhibit 5.1). The lower receipt rates observed in the administrative data compared with the interview responses are concentrated in the two Georgia sites. In particular, in Atlanta the administrative records show only 25 percent of sample members receiving TANF at baseline, while the survey self-report indicates 41 percent of sample members receiving TANF at baseline. In Augusta the difference is not as extreme: survey data indicates that 39 percent of sample members were on TANF at baseline, while administrative records indicate that just 33 percent were receiving welfare.[65] In all other sites, the overall TANF receipt rates are much higher as measured in both administrative and survey data; the two measures are much closer to each other; and the administrative records indicate slightly higher rates of receipt than the survey records. Very similar site-by-site patterns are found when we compare survey data and administrative data for Food Stamp receipt.

[65] The Atlanta and Augusta administrative data came from the same state data system; differences between the two sites, therefore, do not reflect differences in administrative systems.

Exhibit 5.1
Receipt of Public Assistance in Quarter of Random Assignment
Administrative and Survey Data

Site	Cash Assistance Receipt		Food Stamp Receipt	
	Administrative Records	Survey Response	Administrative Records	Survey Response
Atlanta	25%	41%	42%	62%
Augusta	33	39	64	75
Fresno	96	94	na	93
Houston	82	76	90	84
Los Angeles	93	92	91	90
Spokane	78	78	89	86
Total	75	76	78	84

na = not available

The lower overall rate of welfare receipt in Georgia compared to other states reflects the fact that Georgia operationalized the requirements for WtWV program eligibility somewhat differently than the other sites. To recruit sufficient numbers of WtWV-eligibles for the research sample, both Georgia sites made concerted efforts to establish whether applicants had been eligible to receive welfare within the past two years (not just whether they had actually received TANF benefits). As a result, Georgia applicants to the WtWV program had much lower welfare receipt rates at the time of random assignment. As discussed in Chapter One, the procedures used in Atlanta and Augusta to identify and enroll participants may explain this finding.

For the overall sample, average TANF receipt in the quarter of random assignment (including those who were not receiving benefits) was $927. Among persons who were receiving TANF, average TANF receipt was $1,236. Potentially troubling is the fact that average value of TANF receipt was significantly higher for treatment group members than for controls during the quarter of random assignment (quarter 0). In each of the four quarters prior to random assignment, however, the average value of TANF receipt is not significantly different for treatment and controls. (See exhibit 5.2.) Therefore, it appears that TANF receipt in the quarter of random assignment may reflect treatment impacts that occurred shortly after random assignment.

Exhibit 5.2
Amount of Cash Assistance Received by Quarter, Control and Treatment Groups

Follow-up Quarter[a]	Control Mean	Treatment Mean	Difference	Significance Level
-4	$559	$550	$9	0.566
-3	580	580	1	0.969
-2	811	812	-1	0.968
-1	891	916	-25	0.287
0	903	948	-45	0.024

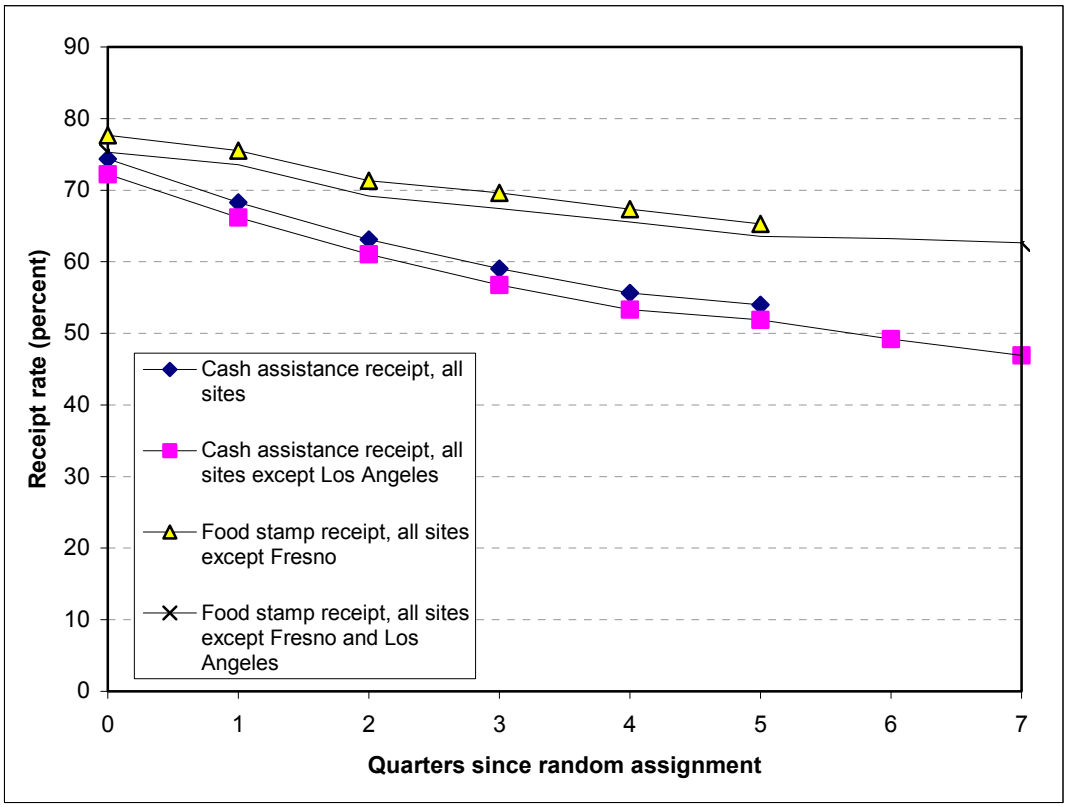
a. Negative-numbered quarters are those preceding random assignment.

The average value of Food Stamps received in the quarter of random assignment, over the entire sample (excluding Fresno), was $593. Among persons who were receiving Food Stamps, the average value was $761. There were no significant differences between treatment and control group members in the quarter of random assignment or in any of the four quarters prior to random assignment.

Receipt of Public Assistance by the Control Group

Impacts are measured as the difference in outcomes between the treatment and control groups. The control group's experiences over time, therefore, represent the standard against which outcomes for the treatment group are evaluated. The administrative data show high initial receipt rates for both TANF and Food Stamps, and a steady decline in receipt over time (see Exhibit 5.3). TANF receipt rates fell more sharply than Food Stamp receipt rates, falling by 25 percentage points between the quarter of random assignment and the seventh quarter of follow-up. This pattern of declining receipt is typical for any cohort of individuals who were all initially receiving benefits. Because current or prior TANF eligibility or receipt was a requirement for program participation, persons applying for the program were likely to have income that was temporarily lower than average. Participants were likely trending back to their permanent income status over time. For the WtWV program to reduce welfare receipt, it would be necessary for the receipt rates of the treatment groups not only to fall over time, but also to fall by more than the rate for the control group.

Exhibit 5.3
Quarterly Receipt of Public Assistance for the Control Group



5.4 Impacts on Cash Assistance and Food Stamps

Exhibits 5.4 and 5.5 present quarterly and aggregate impacts on the receipt and amount of TANF benefits.[66] As indicated in Exhibit 5.4, TANF receipt rates were significantly higher for the treatment group than for the control group over the course of the follow-up period. This finding is consistent with our findings of *negative* impacts on employment and earnings in Chapter Four.

Quarterly impacts for TANF receipt rates (Exhibit 5.4) were at least marginally significant in every quarter. After five quarters of follow-up, the treatment group has had approximately 0.10 more quarters (about 3 percent more time) receiving welfare, on average, than the control group. After seven quarters of follow-up (but restricting our observations to five sites) the treatment group has had approximately 0.16 more quarters receiving welfare (about 4 percent more time), on average, than the control group. The TOT impacts, which adjust for treatment group nonparticipation and control group crossover, show patterns similar to the ITT impacts, although the TOT impacts tend to be about three times larger in size than the ITT impacts. TOT impacts show that treatment group members who leased up had approximately 0.23 more quarters (about 8 percent more time) receiving welfare,

[66] See Exhibit 5.11 for cumulative quarterly impacts on the receipt of TANF benefits.

on average, than the control group. After seven quarters of follow-up the treatment group has had approximately 0.36 more quarters receiving welfare (about 9 percent more time), on average, than the control group.

The overall impact of the treatment on the amount of cash assistance received was not statistically significant. (See Exhibit 5.5.) However, the sign of the impacts is consistently positive, in line with the finding of significant positive impacts on receipt rates.

Exhibits 5.6 through 5.9 provide visual illustrations of the program impacts on cash assistance. The graphs make clear that while TANF receipt rates were gradually declining for the entire sample, receipt rates remained consistently higher for treatment group members The graphs also illustrate the lack of a clear pattern of impacts on quarterly TANF amounts.

Exhibit 5.4
Impacts on Cash Assistance (Receipt Rate)

	All Sites			*All Sites Except Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.690	0.018**	0.051**	0.667	0.017**	0.049**
		(0.007)	(0.020)		(0.008)	(0.022)
Quarter 2	0.638	0.022***	0.041**	0.615	0.020**	0.038*
		(0.008)	(0.019)		(0.009)	(0.021)
Quarter 3	0.598	0.023***	0.053**	0.572	0.025***	0.059***
		(0.009)	(0.021)		(0.009)	(0.023)
Quarter 4	0.564	0.023**	0.050**	0.538	0.027***	0.059**
		(0.009)	(0.022)		(0.010)	(0.023)
Quarter 5	0.547	0.018**	0.040*	0.523	0.024**	0.051**
		(0.009)	(0.022)		(0.010)	(0.024)
Quarter 6	--	--	--	0.495	0.024**	0.058**
		--	--		(0.010)	(0.024)
Quarter 7	--	--	--	0.472	0.020**	0.046*
		--	--		(0.010)	(0.024)
Total number of quarters received assistance over follow-up period	3.036	0.104***	0.235***	3.881	0.157***	0.361***
		(0.033)	0.076		(0.049)	(0.113)

Notes:
N = 8,664 for the regressions run on all sites. N = 7,662 for the regressions run on all sites except Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit 5.5: Impacts on Cash Assistance (Amount Received)

	All Sites			*All Sites Except Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	$752	$26**	$75**	$704	$21*	$61*
		(11)	(32)		(12)	(33)
Quarter 2	701	22*	30	642	16	19
		(12)	(26)		(12)	(27)
Quarter 3	701	21	52	648	21	56*
		(13)	(32)		(13)	(34)
Quarter 4	772	-7	-36	737	-7	-39
		(18)	(47)		(19)	(51)
Quarter 5	738	14	64	703	23	92**
		(18)	(43)		(19)	(46)
Quarter 6	--	--	--	617	17	15
		--	--		(19)	(48)
Quarter 7	--	--	--	581	29	86*
		--	--		(19)	(46)
Total, All Quarters	3664	75	186	4632	120	290
		55	125		(82)	(189)

Notes:
N = 8,664 for the regressions run on all sites. N = 7,662 for the regressions run on all sites except Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit 5.6: Receipt of Cash Assistance, 5 Quarters (All Sites)

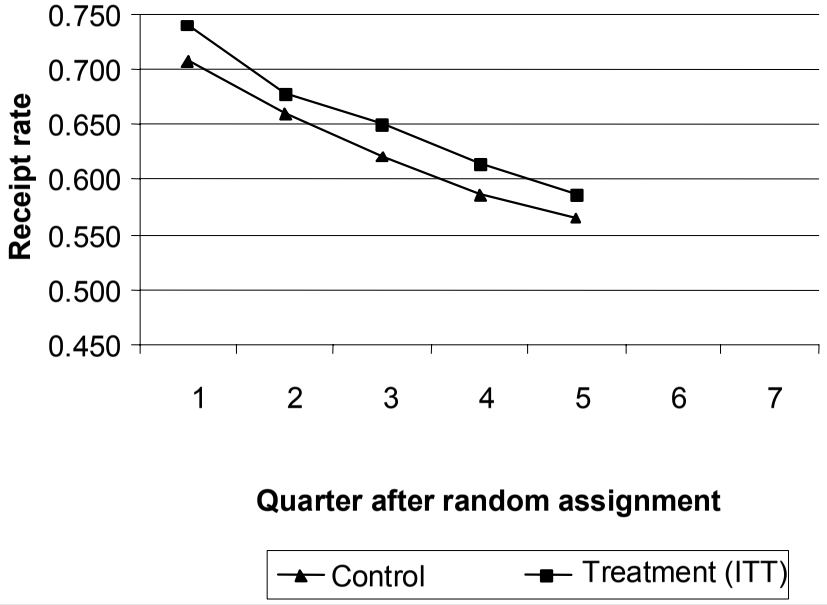


Exhibit 5.7: Receipt of Cash Assistance, 7 Quarters (All Sites Except Los Angeles)

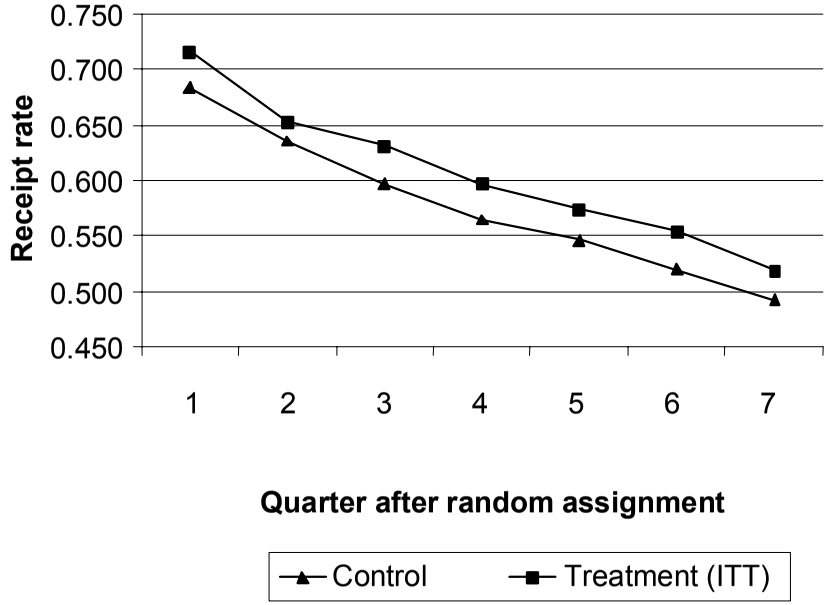


Exhibit 5.8: Amount of Cash Assistance, 5 Quarters (All Sites)

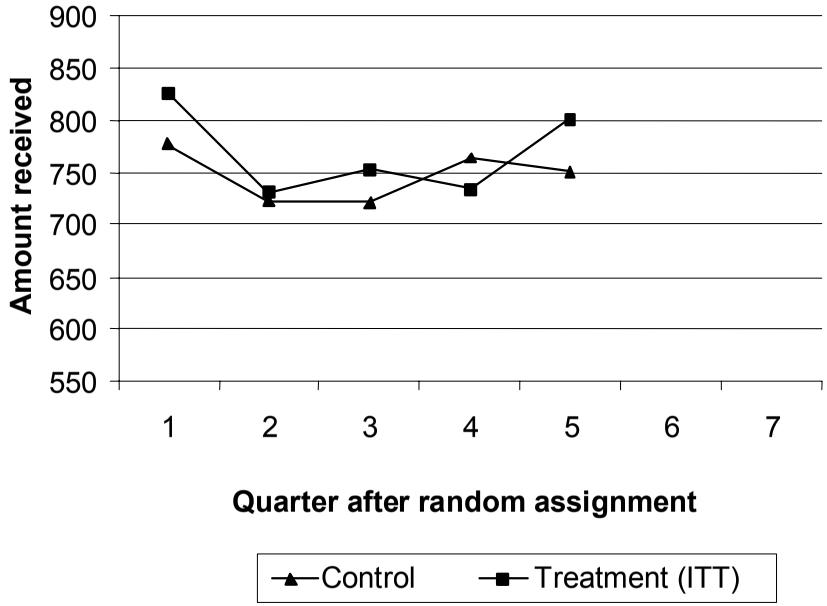


Exhibit 5.9: Amount of Cash Assistance, 7 Quarters (All Sites Except Los Angeles)

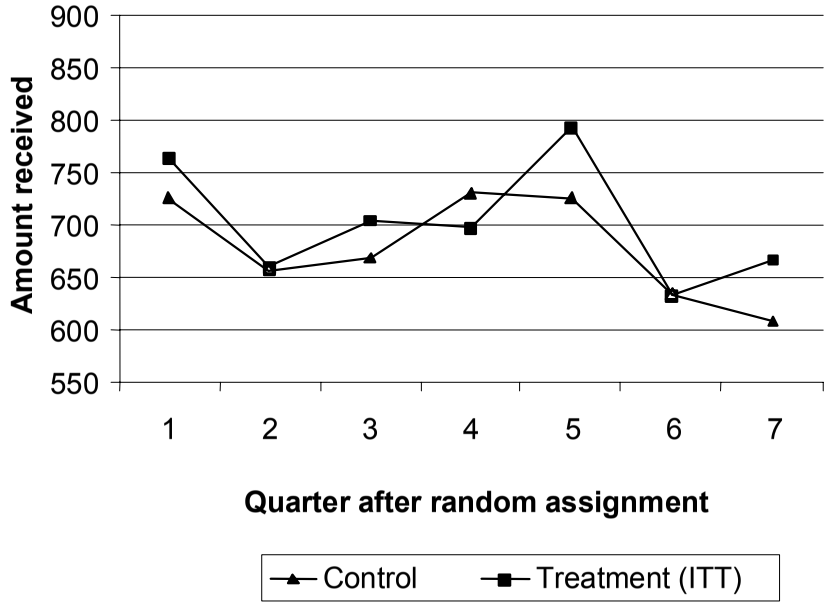


Exhibit 5.10 presents quarterly and cumulative program impacts on receipt of Food Stamps. Where significant, treatment group receipt rates overall – the ITT estimates – averaged about 2 to 3 percentage points less in magnitude (relative to control group means between .60 and .76 of a quarter), while receipt rates for treatment group members who leased up (the TOT impacts) averaged about 5 to 7 percentage points less per quarter. The quarterly impacts are not consistently significant, although they are consistently positive.

Exhibit 5.10
Impacts on Food Stamp Benefits (Receipt Rate)

	All Sites Except Fresno			*All Sites Except Fresno and Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.761	0.012	0.035	0.739	0.011	0.031
		(0.008)	(0.024)		(0.009)	(0.027)
Quarter 2	0.719	0.024***	0.054**	0.694	0.028***	0.067***
		(0.009)	(0.022)		(0.010)	(0.025)
Quarter 3	0.702	0.013	0.016	0.677	0.019*	0.029
		(0.010)	(0.025)		(0.011)	(0.028)
Quarter 4	0.679	0.014	0.041	0.659	0.020*	0.051*
		(0.010)	(0.026)		(0.011)	(0.029)
Quarter 5	0.658	0.019*	0.046 *	0.638	0.029**	0.070**
		(0.011)	(0.027)		(0.012)	(0.029)
Quarter 6	--	--	--	0.635	0.024**	0.049*
		--	--		(0.012)	(0.029)
Quarter 7	--	--	--	0.629	0.014	0.031
		--	--		(0.012)	(0.030)
Total number of quarters received assistance over follow-up period	3.518	0.083**	0.191**	4.670	0.145**	0.328**
		(0.038)	(0.087)		(0.059)	(0.137)

Notes:
N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

The cumulative impacts on Food Stamp receipt (Exhibit 5.10) are significant after five quarters of follow-up for the entire sample except Fresno, which did not provide Food Stamp data, and after seven quarters of follow-up for the sample excluding both Fresno and Los Angeles.[67] Treatment group members after five quarters of follow-up had received Food Stamps during 0.08 more quarters

[67] Exhibit 5.10 presents quarterly impacts on Food Stamp receipt, with two cumulative measures at five and seven quarters. See Exhibit 5.20 for cumulative quarterly impacts on Food Stamp receipt.

than the control group (a two percent increase over the control group mean of 3.52 quarters.) The TOT results show that treatment group members who leased up received Food Stamps during 0.19 more quarters (5 percent more time) than the control group. After seven quarters of follow-up, treatment group members (excluding Los Angeles) had received Food Stamps during 0.15 more quarters than the control group—a three percent increase over the control group mean of 4.67 quarters. Treatment group members who leased up received Food Stamps during 0.33 more quarters over this period—7 percent more time than the control group.

The treatment-control differences in Food Stamp utilization are also evident when we examine differences in the total amount of Food Stamp benefits received (Exhibit 5.11). In the five-quarter analysis of the full sample (excluding Fresno), we find that there is a significant treatment impact on Food Stamp amounts in every single quarter of follow-up. Not surprisingly, there is also a large and significant treatment impact on the aggregate measure, total Food Stamp benefits received over the follow-up period. In the seven-quarter analysis (all sites except Fresno and Los Angeles), impacts are not significant for every quarter, but the majority of quarters do show significant impacts. Over five quarters of follow-up, treatment group members had received on average $102 more in food stamps than had control group members; over seven quarters of follow-up, this difference was $175. Adjusting for nonparticipation and crossover, the TOT results show that treatment group members who leased received, on average, $232 more in food stamps than control group members over five quarters of follow-up; over seven quarters of follow-up, this difference was $403.

Exhibit 5.11
Impacts on Food Stamp Benefits (Amount Received)

	All Sites Except Fresno				*All Sites Except Fresno and Los Angeles*			
	Control Mean	**ITT Impact**	**TOT Impact**		**Control Mean**	**ITT Impact**	**TOT Impact**	
Quarter 1	$574	$15*	$44	*	$578	$15	$44	
		(8)	(24)			(9)	(27)	
Quarter 2	550	21**	43	**	546	26**	57**	
		(9)	(22)			(10)	(24)	
Quarter 3	525	24**	52	**	524	26**	53*	
		(10)	(24)			(11)	(27)	
Quarter 4	518	22**	47	*	517	36***	88***	
		(10)	(25)			(11)	(28)	
Quarter 5	516	20*	46	*	518	34***	69**	
		(11)	(26)			(12)	(30)	
Quarter 6	--	--	--		532	20	41	
		--	--			(12)	(31)	
Quarter 7	--	--	--		525	17	50	
						(13)	(31)	
Total, All Quarters	2683	102***	232	***	3739	175***	403***	
		(39)	(89)			(62)	(144)	

Notes:
N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibits 5.12 through 5.15 provide visual illustrations of the program impacts on the amount and receipt of Food Stamps. The graphs show the overall downward trend in Food Stamp receipt among both treatments and controls, but with a fairly constant differential between the two groups, with treatment group members having consistently higher receipt rates. Similar trends are seen in the amount of Food Stamp benefits received in each quarter.

The combined measure of cash assistance plus Food Stamp receipt is presented in Exhibits 5.16 and 5.17.[68] The impacts on the amount of combined assistance (Exhibit 5.16) received simply reflect the impacts on Food Stamps and cash assistance already presented separately. Impacts are highly significant and positive in nearly every quarter after random assignment, for both the ITT and the TOT results, with the treatment group receiving higher amounts of Food Stamp and TANF benefits than the control group. By follow-up quarter five (all sites except Fresno), the treatment group members had received a total of $205 more in benefits, on average, than control group members; by follow-up quarter seven (all sites except Fresno and Los Angeles), the treatment effect was $317. Both aggregate impacts are highly significant. The TOT results show that treatment group members who leased up had received a total of $467 more in benefits by quarter five, on average, than control group members; by quarter seven, treatment group members who leased up had received a total of $732 more in benefits.

Turning to receipt rates (Exhibit 5.17), we see that in the five-quarter analysis there is little evidence of significant impacts on total receipt of aid. However, after seven quarters of follow-up, treatment group members (excluding Fresno and Los Angeles) had received assistance during an average of 0.12 more quarters, 2.5 percent higher than the control mean of 4.8 quarters. The TOT results show that treatment group members who leased up had received assistance for an average of 0.27 more quarters of aid than the control group after seven quarters of follow-up, a difference of 6 percent.

[68] See Appendix Exhibit F.4 for cumulative quarterly impacts on combined TANF and Food Stamp receipt.

Exhibit 5.12: Receipt of Food Stamps, 5 Quarters (All Sites Except Fresno)

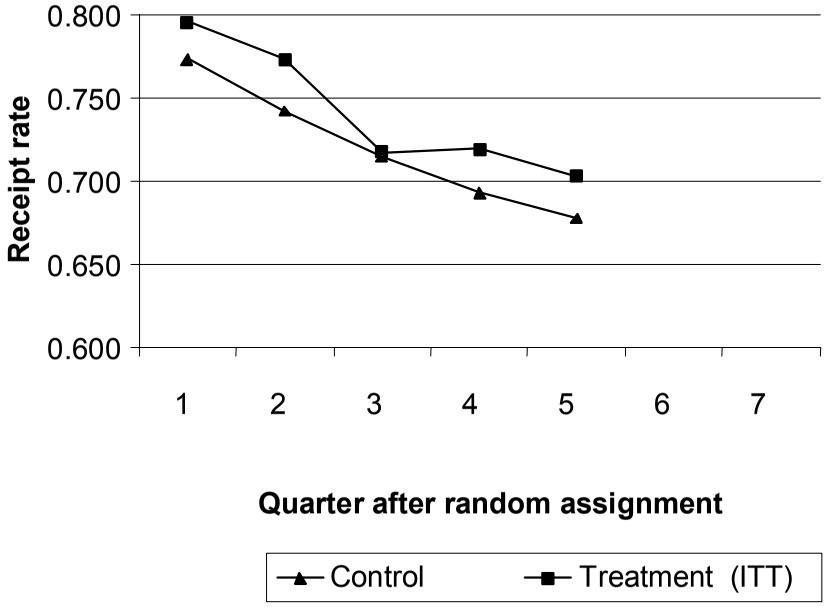


Exhibit 5.13: Receipt of Food Stamps, 7 Quarters (All Sites Except Fresno and Los Angeles)

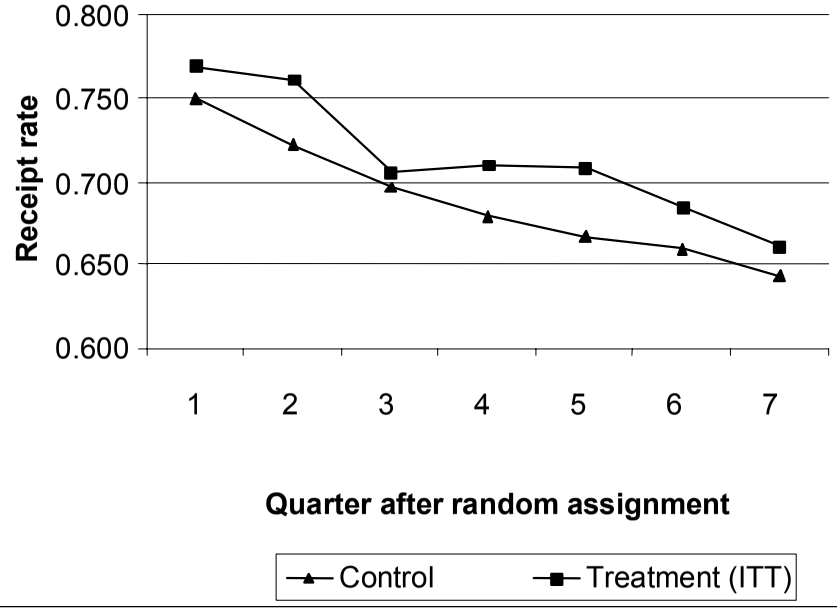


Exhibit 5.14: Amount of Food Stamps, 5 Quarters (All Sites Except Fresno)

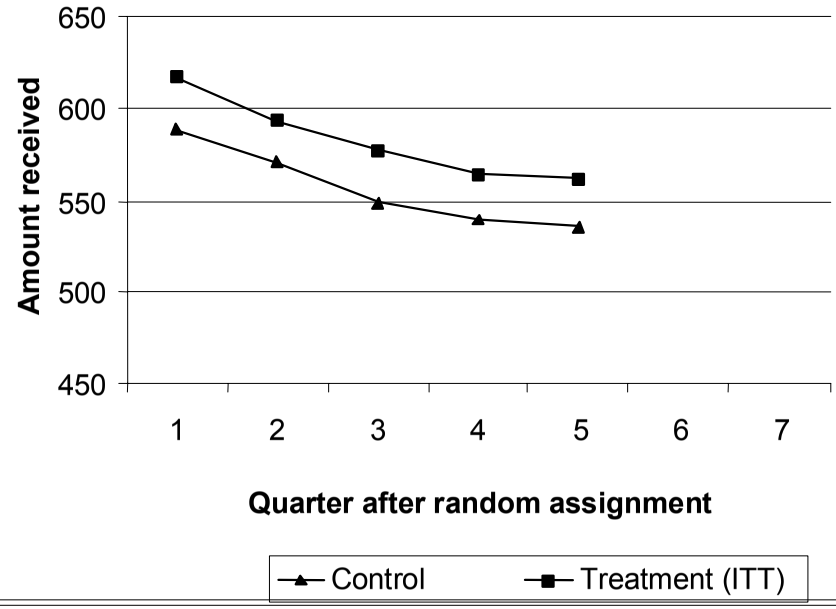


Exhibit 5.15: Amount of Food Stamps, 7 Quarters (All Sites Except Fresno and Los Angeles)

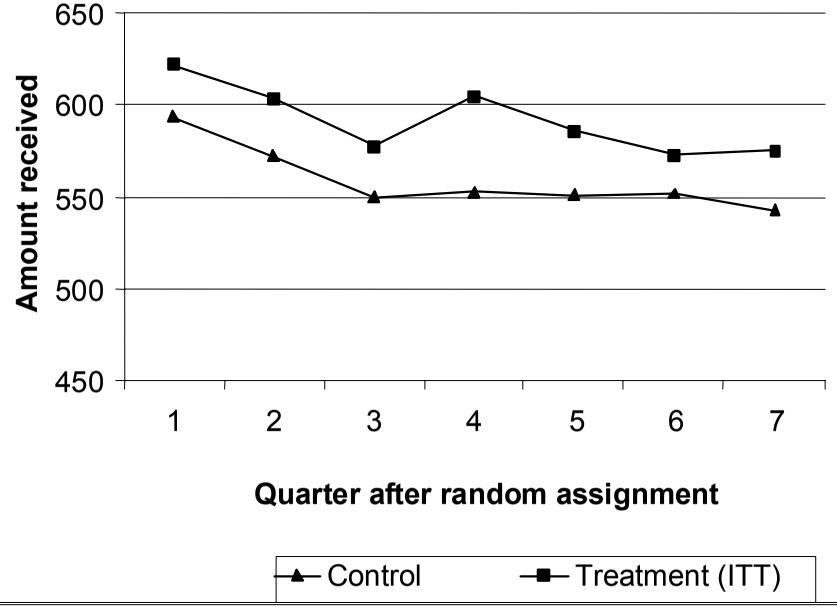


Exhibit 5.16
Impacts on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	All Sites Except Fresno			*All Sites Except Fresno and Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	$1124	$47***	$136***	$1014	$42**	$122**
		(17)	(50)		(18)	(53)
Quarter 2	1045	47**	76 *	907	45**	79*
		(19)	(43)		(19)	(44)
Quarter 3	974	47**	111 **	839	51**	120**
		(19)	(48)		(20)	(49)
Quarter 4	934	35*	69	804	53***	115**
		(20)	(47)		(20)	(48)
Quarter 5	915	30	75	792	56***	133***
		(21)	(50)		(21)	(51)
Quarter 6	--	--	--	798	39*	76
		--	--		(21)	(51)
Quarter 7		--	--	771	30	86*
		--	--		(21)	(51)
Total, All Quarters	4992	205***	467***	5925	317***	732***
		(79)	(180)		(109)	(253)

Notes:

N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.

"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.

*** = p < .01; ** = p < .05; * = p< .10

Exhibit 5.17
Impacts on Cash Assistance or Food Stamp Benefits
(Any Receipt in Quarter)

	All Sites Except Fresno			*All Sites Except Fresno and Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.787	0.005	0.014	0.765	0.003	0.009
		(0.008)	(0.023)		(0.009)	(0.026)
Quarter 2	0.741	0.020**	0.053**	0.717	0.022**	0.059**
		(0.009)	(0.022)		(0.010)	(0.025)
Quarter 3	0.722	0.011	0.009	0.698	0.015	0.018
		(0.010)	(0.024)		(0.011)	(0.027)
Quarter 4	0.700	0.009	0.025	0.681	0.014	0.036
		(0.010)	(0.025)		(0.011)	(0.028)
Quarter 5	0.678	0.017	0.044 *	0.660	0.026**	0.065**
		(0.011)	(0.026)		(0.012)	(0.029)
Quarter 6	--	--	--	0.653	0.024**	0.048*
		--	--		(0.012)	(0.029)
Quarter 7	--	--	--	0.645	0.017	0.037
		--	--		(0.012)	(0.030)
Total number of quarters received assistance over follow-up period	3.628	0.062	0.146 *	4.819	0.120**	0.273**
		(0.038)	(0.087)		(0.059)	(0.137)

Notes:
N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit 5.18 presents the two sets of impacts on the total amount of combined TANF and Food Stamp assistance received over the follow-up period (five quarters and seven quarters) for different subgroups in the sample.[69] As discussed in Chapter Four, we examine forty different (but overlapping) subgroups, and in the discussion of subgroup findings we focus on those subgroups where impacts were found to be significant with at least 95 percent confidence, indicated by double or triple asterisks in the tables. This restriction helps reduce the risk of spurious findings given the large number of subgroups examined. Those subgroups where impacts were found to be statistically significant at the 90 to 95 percent confidence level are indicated by single asterisks. Among the five-quarter analyses, we find statistically significant TOT impacts in seven of the forty subgroups (all but one of which are positive impacts); among the seven-quarter analyses, we find statistically significant program impacts in eighteen of the subgroups (all but one of which are positive impacts.)

[69] See Appendix Exhibit F.5 for subgroup impacts on total amount of TANF received, and Appendix Exhibit F.6 for subgroup impacts on receipt of TANF.

Exhibit 5.18
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits (Amount Received)

	Through Quarter 5, All Sites Except Fresno			*Through Quarter 7, All Sites Except Fresno and Los Angeles*		
	Sample Size	**Control Mean**	**TOT Impact**	**Sample Size**	**Control Mean**	**TOT Impact**
Age 24 and under	1894	$4,280	$472 *	1811	$5,785	$559
Age 25 - 34	2335	5,218	256	2023	6,282	417
Age 35 - 44	1321	5,626	682	861	5,714	1,647 **
Age 45 and older	485	5,015	809	312	5,091	-210
Any dependent children[a]	5348	5,077	501 ***	4379	5,974	798 ***
No dependent children[a]	618	4,386	6	558	5,600	-514
Age of youngest person in household is less than 6 years	3862	5,090	220	3437	6,313	501 *
Age of youngest person in household is l6 – 17 years	1884	5,041	632 *	1314	5,182	690
Age of youngest person in household is 18 years or more	352	3,750	2,440	305	4,898	1,602
White, non-Hispanic	1237	6,308	783	929	7,367	545
Black, non-Hispanic	2503	4,135	363	2217	5,085	615 **
Hispanic	494	6,054	362	312	6,692	2,109 **
Working at baseline	2621	4,058	222	1895	4,058	377
Not working at baseline	3076	5,690	725 ***	2780	7,032	967 ***
Ever worked at baseline	5141	4,807	344 *	4229	5,675	478 *
Never worked at baseline	805	6,028	823	690	7,257	1,412 *

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10. See Appendix Exhibit F.1 for ITT estimates and standard errors.

[a] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 7 differ significantly by subgroup, at p<.10.

Exhibit 5.18 *(Continued)*
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno			*Through Quarter 7, All Sites Except Fresno and Los Angeles*		
	Sample Size	**Control Mean**	**TOT Impact**	**Sample Size**	**Control Mean**	**TOT Impact**
Employed (reservation wage not asked)	2621	$4,058	$222	1895	$4,058	$377
Reservation wage 3 – 5.99	112	5,285	880	101	6,767	-2,129
Reservation wage 6 – 8.99	1507	5,293	548 *	1380	6,690	827 *
Reservation wage 9 – 12.99	890	5,128	937 *	733	5,863	1,738 ***
Reservation wage 13 – 15.99	246	5,433	180	176	5,886	534
Enrolled in a job training program	709	5,158	965 *	615	6,312	1,233 *
Enrolled in, but has not yet started, a job training program	354	5,128	330	325	6,331	590
Not in a job training program	4871	4,970	366 *	3979	5,845	601 **
Enrolled in school	947	5,271	1004 *	769	6,045	797
Not enrolled in school	4700	4,942	315	3906	5,904	547 **
High school diploma	2489	4,520	19	1935	4,934	184
GED (but no high school diploma	1136	4,770	767 *	1065	6,203	982 *
Neither a HS diploma nor GED	1808	5,543	552 *	1504	6,825	644
On TANF at baseline	4132	6,148	503 **	3179	7,318	721 **
Not on TANF at baseline	1548	2,492	495 *	1477	3,511	780 *
Not on TANF[b]	1548	2,492	495 *	1477	3,511	780 *
TANF expires within 6 months[b]	823	4,787	835 *	772	6,363	1,256 *
TANF expires 6 – 12 months[b]	334	5,902	-430	283	7,138	-303 *
TANF expires in 12 –18 months[b]	194	5,914	1,208 *	169	6,982	2,098
TANF expires in > 18 months[b]	484	6,658	-194	437	8,247	430
Desires to move for employment reasons	817	$4,677	$657	701	5,742	937
Does not desire to move for employment reasons	5164	$5,045	$410 **	4252	5,957	629 **

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10. See Appendix Exhibit F.1 for ITT estimates and standard errors.

[b] An F test on the equality of treatment effects by subgroup indicates that ITT impacts through quarter 7 differ significantly by subgroup, at p<.10.

Exhibit 5.18 *(Continued)*
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno			*Through Quarter 7, All Sites Except Fresno and Los Angeles*		
	Sample Size	**Control Mean**	**TOT Impact**	**Sample Size**	**Control Mean**	**TOT Impact**
Rents or owns apartment or house	$3028	$5,520	$378	2164	$6,023	$605
Lives with friends or relatives	1811	4,389	675 **	1708	5,700	978 **
Public or other assisted housing	896	4,406	622	851	5,936	524
Homeless shelter, transitional housing	178	5,554	-3,344 **	166	7,512	-4,648 **

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated".
*** = p < .01; ** = p < .05; * = p< .10. See Appendix Exhibit F.1 for ITT estimates and standard errors.

As discussed in the previous chapter, it is important to remember that sample sizes, and therefore the precision of the estimates, varied widely across subgroups. Thus, differences in statistical significance across subgroups may reflect differences in sample sizes, as well as differences in true impact. In order to identify subgroups with impacts that were significantly different *from one another*, we ran F-tests on the joint significance of the subgroup impacts. The F-tests allow us to report with confidence whether a given set of subgroup effects were significantly different from each other. We first discuss those sets of subgroup effects where we observed significant subgroup differences. We then discuss those individual subgroups for which we observed significant treatment effects, but where we do not have evidence that treatment effects differed within the relevant set of subgroups. We then summarize the pattern of subgroup findings we have observed.

The F-test results indicate that, after five quarters of follow-up, there were significantly different impacts found for only one set of groups: subgroups defined by the number of months of unused TANF benefits, with the largest (positive) impacts found among respondents whose TANF benefits were not due to expire for 12 – 18 months. After seven quarters of follow-up, a different set of subgroups was found to have significantly different impacts: subgroups defined by the presence of dependent children. Those respondents with dependent children experienced significant positive treatment effects on cash assistance, while those who reported no dependent children did not. These two results do not provide enough information to comment on the overall pattern of impacts on benefits.[70] It is useful, therefore, to consider the patterns that we can observe based on the individual subgroup effects.

[70] As noted in Chapter Four, it must be remembered that the F-tests are derived from different models than the models which produced the subgroup analyses presented in the tables. The subgroup analyses presented

Patterns of impacts by demographic characteristics are not particularly suggestive. Significant impacts are found for respondents with any dependent children (the vast majority of respondents), but, in the five-quarter analysis, significant impacts are also found in households where the youngest person is over age 18. In the seven-quarter analysis, significant impacts are found for respondents aged 35 – 44. No strong conclusions can be drawn from this set of impacts.

Impacts by labor market characteristics are fairly consistent with the hypothesis, presented in Chapter Four, that groups at greater disadvantage in the labor market had stronger impacts—in this case, more *positive* impacts on the amount of cash assistance received. Respondents who were receiving TANF at baseline and who were not working at baseline experienced significant treatment effects. In the seven-quarter analyses only, we also observe significant treatment effects among blacks and Hispanics. There are some labor-market subgroup impacts that are not consistent with the hypothesis: we also observe significant impacts for persons with fairly high reservation wages ($9 – $12) and for persons who were *not* in training and *not* in school in the seven-quarter analysis. It should be noted that the estimates for respondents who *are* in school or training are larger in size than the estimates for those who are not; however, they have not been estimated as precisely. Therefore, the evidence overall suggests that labor market disadvantage may indeed be associated with larger positive impacts on cash assistance received.

Another group that experienced significant treatment effects was respondents who said they did *not* desire to move at baseline. It should be noted, however, that the estimated treatment effects were actually larger for respondents who said they *did* want to move—those estimates were simply estimated with less precision.

The two remaining subgroups that experienced significant treatment effects were respondents who lived with friends or relatives, and respondents who were in a homeless shelter or traditional housing at baseline. Those who lived with friends or relatives experienced positive impacts on cash assistance, as did most of the sample. As discussed in Chapter Four, respondents who lived with friends or relatives at baseline also experienced significant (negative) employment and earnings impacts; it may be that this group had strong incentives to use their voucher to *move*, and therefore were more likely to experience the disruptions to employment associated with relocation than those respondents who could use their voucher to lease in place.

In contrast, respondents who were homeless or in transitional housing at baseline experienced *negative* cash assistance impacts. This group of respondents is the only subgroup for which program participation is associated with a large and significant decline in public assistance. It seems possible that respondents in transitional housing situations who used their vouchers to move into private rental housing may have disrupted their points of contact with social service agencies, and possibly suffered a loss of benefits as a result. It is also possible, however, that respondents in transitional housing experienced positive employment impacts, and increased employment and earnings produced a corresponding decline in cash assistance. This subgroup may, in fact, have experienced a positive

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here are from models that were run separately on each group. In contrast, the F-test results are from models run on the entire sample, where each subgroup is interacted with the treatment dummy, and the coefficients on all covariates except for the treatment effect were constrained to be constant for each subgroup.

treatment effect on employment; the point estimate on employment for this group, while not estimated with statistical precision, was positive (see Exhibit 4.6).

In sum, the WtWV treatment has produced significant positive impacts on the use of both TANF and Food Stamps, and on the amount of Food Stamp benefits received, indicating that the receipt of welfare benefits increased in the treatment group as a result of the program. Subgroup analyses suggest that these results may be somewhat concentrated among respondents who are relatively disadvantaged in the labor market, and among respondents who experience a strong "push factor" to use their voucher to move, such as those who are living with friends or relatives at baseline. These results are consistent with the findings presented in Chapter Four, which showed that the WtW Voucher treatment produced significant declines in employment and earnings in the treatment group, relative to the control group.

5.5 Interpretation of Results

The WtWV program appears to have produced significant, albeit modest, *increases* in the utilization of public assistance among program participants relative to their control group counterparts. These findings are consistent both with the predictions of economic theory and with the finding that program participation is associated with lower levels of employment and earnings. Given the relatively small percentage of program participants who used their voucher to move, it seems likely that the positive mechanisms of the WtWV program – nearly all of which operate through the long-term beneficial effects of residential location on employment – were simply outweighed by the negative mechanisms of the economic disincentives to work and the short-term, transitional disruptions associated with moving.

It should be kept in mind, however, that receipt of both cash assistance and food stamps declined over the period observed for both the control group *and* the treatment group. Voucher recipients simply had a slightly higher level of public assistance utilization throughout the follow-up period.

As discussed in the previous chapter, it is possible that the positive mechanisms of the WtWV program will gain strength over time, as program participants who have relocated to or remained in better neighborhood environments are able to derive positive effects from these locational advantages, while some of the negative mechanisms of the WtWV program (such as the transitional disruptions to employment and to social networks) will decline in importance.

Chapter Six
Further Interpretation of Findings

This chapter provides further interpretation of the findings presented in this report on the effects of housing vouchers for welfare families. The estimates of impacts on residential location, employment, earnings, and receipt of public assistance reported in Chapters Three, Four, and Five are considered together. Information from open-ended interviews with a small number of families participating in the study is used to help interpret the results and to put them in context.

This study is especially timely in examining the effects of housing vouchers for the welfare population. With the 1996 federal welfare reforms having established time limits on federally funded cash assistance, attention has focused increasingly on the role that tenant-based housing assistance can play in aiding the transition of welfare families to self-sufficiency. A recent proposal to convert federal funding for Housing Choice Vouchers to a state-administered block grant has further highlighted the connections between housing assistance and welfare. More than ever, there is the need for greater understanding of whether housing vouchers can indeed improve the lives of welfare families.

This evaluation is particularly relevant to the link between housing assistance and welfare because the participating sites enrolled their research samples in a period (2000-2001) during which many TANF recipients faced the reduction or loss of their TANF cash assistance, as a result of the federally enacted five-year lifetime limit on TANF benefits or more stringent state-imposed time limits. At the time of random assignment, 80 percent of sample members were receiving TANF. The remainder were primarily former TANF recipients; only a very small percentage (3 to 4 percent) were TANF eligibles who had never received TANF.

This study is especially informative for policy purposes because the findings are based on an experimental design. The random assignment of program-eligible applicants to treatment and control groups enables one to draw inferences rigorously about the effects of the voucher, independent of other factors influencing participant outcomes. One can attribute to the voucher intervention the differences in outcomes between the treatment and control groups, as random assignment serves to ensure that the two groups are well matched on both their observed and unobserved baseline characteristics. It is also important to note that the findings of the study reflect intensive efforts to track the residential addresses of all sample members after random assignment, so that locational outcomes can be accurately measured.

As described in Chapter Two, the basic intervention affecting the members of the treatment group was the housing voucher itself. Although all sites had originally indicated their intent to couple the voucher with housing search assistance and employment-related services, only Fresno appears to have done so. Even in Fresno, not until late 2001 were WtWV participants provided housing search services and required to participate in the Family Self-Sufficiency Program. This was more than a year after the Fresno research sample was enrolled; the six-site findings presented here through the fifth follow-up quarter were thus not affected by these services in Fresno.

In this chapter, we focus on the TOT impact estimates at quarter 5 that were significant at the 0.10 level. These estimates are based on the experience of all six evaluation sites. These are also the estimates that reflect the adjustment for treatment group nonparticipation and control group crossover. Finally, these are the treatment effects that one can reasonably regard as not a result of statistical chance.

With respect to the evidence of treatment effects by subgroup, one must bear in mind that subgroup sample sizes were often very limited. Especially for subgroups comprising less than 25 percent of the full sample, the study provides limited power to detect subgroup-specific treatment effects, unless such effects are truly large (i.e., 20 percent or more as a proportion of the corresponding mean value for control cases). For this reason, one should be careful about drawing conclusions from nonsignificant impact estimates for small-sample subgroups. Such estimates represent relatively weak evidence as to the presence or absence of any effect.

We have divided the discussion into two areas: effects of vouchers on mobility and locational characteristics (or "where families live," as presented in Chapter Three) and the effects of vouchers on employment and cash assistance (as presented in Chapters Four and Five). We have joined the latter effects into a single discussion for two reasons. First, the effects on cash assistance are largely driven by the effects on earnings. Second, this facilitates the integration of the qualitative research conducted separately for this evaluation, as that research focused on the housing experiences and the employment experiences of selected sample members.

In interpreting the impact estimates for the total sample and by subgroup, we have been guided by the findings of the qualitative research conducted previously as part of this evaluation.[71] In February and March 2002, researchers from Abt Associates conducted in-person interviews with 75 selected members of the research sample across the six demonstration sites. The number of interviews per site ranged from 9 to 15. The 75 interview respondents were purposively distributed among the following three categories:

- 43 were "treatment-movers"—i.e., treatment group members who had used their voucher to lease up at an address different than their baseline address;
- 13 were "treatment-stayers"—i.e., treatment group members who had used their voucher to lease up at their baseline address; and
- 19 were noncrossover "control group members"—i.e., control group members who had not leased up with a voucher.

A team of five site visitors completed the interviews. Most were conducted in the respondent's home. The interviews focused on the time period between random assignment and the interview, 18 to 22 months in all of the study sites except Los Angeles, where the period was approximately 10 months. The interviews were open-ended discussions that addressed a broad array of topics, including: changes in housing arrangements, employment, and receipt of public assistance over the study period; motivations for moving; plans to move in the future; satisfaction with the quality of current housing

[71] Turnham, *et al.* (2002).

and neighborhood conditions; and for voucher recipients, an assessment of the financial implications of receiving the rental assistance.

6.1 Interpreting the Estimated Impacts on Where Families Live

Exhibit 6.1 shows the statistically significant TOT effects on locational characteristics in the 5th quarter, for the total sample and by subgroup. Effects in the favorable direction are indicated by +, ++, or +++, depending on whether the estimate is significant at the 0.10, 0.05, or 0.01 level. Effects in the unfavorable direction are similarly indicated by -, - -, or - - -.

As indicated in Chapter Three, among the full-sample estimates for the six locational outcome measures, there was one marginally significant treatment effect. In the 5th follow-up quarter, those using vouchers were found to reside in Census tracts with higher rates of adult employment. Significant effects on this outcome were also estimated for the following subgroups (as defined by baseline characteristics): those less than 24 years old, non-Hispanic blacks, those with a GED but no high school diploma, those with no dependent children, those whose youngest household member was younger than 6 or older than 17, those never employed, and those residing in public or assisted housing.

For three subgroups, significant treatment effects were found for multiple outcomes, as follows:

- As compared with their control counterparts, those less than 24 years of age at baseline lived in Census tracts with:
  A lower percentage of persons below 100 percent of poverty
  A higher percentage of persons above 200 percent of poverty
  A higher percentage of adults employed

- Non-Hispanic blacks who leased up with demonstration vouchers lived in Census tracts with:
  A lower percentage of persons below 100 percent of poverty
  A higher percentage of adults employed

- Those residing in public or assisted housing at baseline lived in Census tracts with:
  A lower percentage of persons below 100 percent of poverty
  A higher percentage of persons above 200 percent of poverty
  A lower percentage of minority persons
  A higher percentage of adults employed

Exhibit 6.1
Impacts on Neighborhood Characteristics, Treatment-on-Treated (TOT) Estimates for Quarter 5, All Sites

Subgroup	Percent of Persons Below 100 Percent of Poverty	Percent of Persons Above 200 Percent of Poverty	Percent of Minority Persons	Percent of Adults Employed	Percent of Adults With No High School Education	Percent of Youth Not in School and Not Employed
Total sample				+		
Age less than 24	+++	+		+++		
Age 25-34					- -	
Age 35-44						
Age 45 or older						
White, non-Hispanic			-			
Black, non-Hispanic	++			+++		
Hispanic						
High school diploma		-				
GED (but no high school diploma)				+		
Neither high school diploma nor GED						
Enrolled in school		- -			- -	
Not enrolled in school				+		
Any dependent children						
No dependent children				++		
Youngest household member less than 6				++		
Youngest household member 6-17						
Youngest household member 18 or more				+		

Exhibit 6.1 *(Continued)*
Impacts on Neighborhood Characteristics, Treatment-on-Treated (TOT) Estimates for Quarter 5, All Sites

Subgroup	Percent of Persons Below 100 Percent of Poverty	Percent of Persons Above 200 Percent of Poverty	Percent of Minority Persons	Percent of Adults Employed	Percent of Adults With No High School Education	Percent of Youth Not in School and Not Employed
Employed (reservation wage not asked)						
Not employed, with reservation wage of:						
$3.00 to $5.99						
$6.00 to $8.99						
$9.00 to $12.99						
$13.00 to $15.99						
Total not employed						
Ever employed						
Never employed				+		
Enrolled in job training						+
Enrolled in (but yet to start) job training						
Not enrolled in job training						
Desired to move for employment reasons						
Did not desire to move						
Rents or owns apartment or house						
Lives with friends or relatives						
Resides in public or assisted housing	+++	++	++	++		
Homeless shelter or transitional housing						

Exhibit 6.1 *(Continued)*
Impacts on Neighborhood Characteristics, Treatment-on-Treated (TOT) Estimates for Quarter 5, All Sites

Subgroup	Percent of Persons Below 100 Percent of Poverty	Percent of Persons Above 200 Percent of Poverty	Percent of Minority Persons	Percent of Adults Employed	Percent of Adults With No High School Education	Percent of Youth Not in School and Not Employed
Not receiving TANF						
Receiving TANF, expiring in:						
Less than 6 months						
6 to 12 months						
12 to 18 months						
More than 18 months						
Total receiving TANF						

Source: Exhibits 3.5 and 3.6.

Explanatory notes:
Entries in the table indicate the outcomes and subgroups for which the treatment-on-treated (TOT) effect was estimated to be statistically significant in the favorable (positive) or unfavorable (negative) direction, as follows:

+ or - statistically significant at the 0.10 level in the favorable (+) or unfavorable (-) direction
++ or - - statistically significant at the 0.05 level in the favorable (++) or unfavorable (- -) direction
+++ or - - - statistically significant at the 0.01 level in the favorable (+++) or unfavorable (- - -) direction

For the following outcomes, higher values are considered favorable:

Percent above 200 percent of poverty
Percent of adults employed

For the following outcomes, lower values are considered favorable:

Percent below 100 percent of poverty
Percent of minority persons
Percent of adults with no high school education
Percent of youth not in school and not employed

For one subgroup, those enrolled in school at baseline, adverse treatment effects were found on the percentage of persons above 200 percent of poverty and the percentage of adults with no high school education.

A possible explanation for the results for younger families is suggested by the analysis of treatment effects on out-of-tract mobility by subgroup presented in Chapter Three and by the qualitative research. The mobility analysis suggests that using the voucher to change one's residential location was easier for some types of families than for others. Household heads in the youngest age group (less than 24) and those with no dependent children (controlling for the age of household head) appear to have been less tied to their current living arrangement and could thus more easily relocate. Findings from the qualitative interviews showed that some parents were reluctant to undertake a move that would disrupt children's schooling, after-school activities, social ties, or childcare arrangements.

The significant favorable effects estimated for non-Hispanic blacks are also noteworthy. This racial/ethnic group comprises one-half of the research sample (50 percent, as shown in Exhibit 1.2). The fact that this subset of the treatment group came to reside in areas of lower poverty and higher adult employment may indicate that their living arrangements at baseline were particularly troublesome, with the voucher enabling them to relocate to better neighborhoods than their control-group counterparts. Alternatively, these estimated impacts could have resulted from treatment-group blacks remaining in their baseline neighborhoods (by leasing in place with their voucher), while control-group blacks were unable to maintain their living arrangements and came to reside in lower quality neighborhoods. The analysis of mobility in Chapter Three strongly supports the former explanation, however, as treatment-group blacks showed higher mobility rates than control-group blacks. The positive effects on neighborhood characteristics for those living in public or assisted housing at baseline almost certainly result from moves to better neighborhoods.

It is important to note that no significant favorable (or unfavorable) effects were found for large-sample subgroups defined according to their employment status or TANF status in the month of random assignment. One might have expected, *a priori*, that sample members with the greatest needs for employment (e.g., without a current job) or those with the most urgent needs for income (e.g., with a soon-to-expire TANF benefit) would be most likely to take advantage of the locational improvement made possible by a voucher. However, the absence of significant favorable effects for such subgroups is consistent with the findings from the qualitative research. This research strongly suggested that moves occurring within the first one to two years of the demonstration (among both voucher users and control households) were not motivated by prospects for improved employment and income. Instead, the household head moved to stabilize the family's housing situation, relieve personal anxiety, leave a "doubled-up" arrangement with relatives or friends, or alleviate concerns over personal safety and security. Where children were present, the concerns for the well being of children played an important role in decisions about housing location. In general, individuals' housing decisions were focused more on responding to immediate perils and pressures, rather than working or increasing employment income.

Another noteworthy aspect of the treatment effects presented in Chapter Three is the contrast between the estimated effects of vouchers on out-of-tract mobility rates and the effects on neighborhood quality. For a number of large-sample subgroups, the effect of the voucher on mobility was large in

magnitude (in the expected positive direction) and statistically significant. The corresponding effects on neighborhood indicators, however, tended to be very small in magnitude (usually in the favorable direction, whenever statistically significant). It appears that the voucher had the effect of prompting families to move, but to areas that were only marginally better than their location at baseline, as measured by the Census indicators included in this analysis.

6.2 Interpreting the Estimated Impacts on Employment and Cash Assistance

Exhibit 6.2 shows the estimated effects on employment and cash assistance that were found significant at the 0.10 level, for the total sample and by subgroup. As in the prior exhibit, effects in the favorable direction are indicated by +, ++, or +++, depending on whether the estimate is significant at the 0.10, 0.05, or 0.01 level. Effects in the unfavorable direction are indicated by -, - -, or - - -.

We focus first on the employment effects, which were typically adverse. They were also coupled with adverse effects on cash assistance, as lower earnings would expectedly increase the family's TANF benefit. Significant adverse effects at the 0.05 level on *both* employment (i.e., fewer quarters employed and/or lower earnings amount) *and* cash assistance (i.e., more quarters received and/or higher benefit amount) were estimated for the total sample and for the following subgroups (as defined at baseline):

- Those not enrolled in school
- Those with dependent children
- Those whose youngest household member was over 17
- All those not employed at baseline
- Those not employed at baseline and with a reservation wage of $6.00 to $8.99
- Those who had ever worked
- Those not enrolled in job training
- Those who desired to move for employment reasons
- Those living with friends or relatives at baseline
- Those receiving TANF at baseline

Exhibit 6.2
Impacts on Employment and Cash Assistance, Treatment-on-Treated (TOT) Estimates for Quarters 1-5, All Sites

Subgroup, by Baseline Characteristic	Employment: Quarters 1-5		Cash Assistance: Quarters 1-5	
	Number of Quarters Employed	Earnings Amount	Number of Quarters Received	Benefit Amount
Total sample	- -	- -	- - -	
Age less than 24	-		-	
Age 25-34	-	- -		
Age 35-44				
Age 45 or older			-	
White, non-Hispanic				
Black, non-Hispanic	- -			
Hispanic			- - -	
High school diploma				
GED (but no high school diploma)				
Neither high school diploma nor GED	- -	- -		
Enrolled in school			-	
Not enrolled in school	- -	- - -	- -	
Any dependent children	- -	- - -	- - -	
No dependent children				
Youngest household member less than 6	- -	-	-	
Youngest household member 6-17		-	- -	
Youngest household member 18 or more		- -	-	- - -
Employed (reservation wage not asked)		-	- -	
Not employed, with reservation wage of:				
$3.00 to $5.99	++			
$6.00 to $8.99	- -	- -	- - -	
$9.00 to $12.99				
$13.00 to $15.99				
Total not employed	- - -	- -	- -	
Ever employed	- -	- -	- - -	
Never employed				
Enrolled in job training				
Enrolled in (but yet to start) job training	- - -	- -		
Not enrolled in job training	-	- -	- -	

Exhibit 6.2 *(Continued)*
Impacts on Employment and Cash Assistance, Treatment-on-Treated (TOT) Estimates for Quarters 1-5, All Sites

Subgroup, by Baseline Characteristic	Employment: Quarters 1-5		Cash Assistance: Quarters 1-5	
	Number of Quarters Employed	Earnings Amount	Number of Quarters Received	Benefit Amount
Desired to move for employment reasons	-	- - -	- -	- -
Did not desire to move	-	-	- -	
Rents or owns apartment or house			-	
Lives with friends or relatives	- - -		- -	
Resides in public or assisted housing	- -	- -		
Homeless shelter or transitional housing			+	+
Not receiving TANF				
Receiving TANF, expiring in:				
Less than 6 months		-	- -	- -
6 to 12 months				
12 to 18 months		-		
More than 18 months	-			
Total receiving TANF		- -	- - -	

Source: Exhibits 4.3, 4.6, 4.7, 4.10, 5.4, 5.5, F.5, and F.6.

Explanatory notes:
Entries in the table indicate the outcomes and subgroups for which the treatment-on-treated (TOT) effect was estimated to be statistically significant in the favorable (positive) or unfavorable (negative) direction, as follows:

+ or - statistically significant at the 0.10 level in the favorable (+) or unfavorable (-) direction
++ or - - statistically significant at the 0.05 level in the favorable (++) or unfavorable (- -) direction
+++ or - - - statistically significant at the 0.01 level in the favorable (+++) or unfavorable (- - -) direction

For the following outcomes, higher values are considered favorable:

Number of quarters employed
Earnings amount

For the following outcomes, lower values are considered favorable:

Number of quarters received cash assistance
Cash assistance benefit amount

These subgroup characteristics generally imply greater barriers to employment or weaker attachment to the labor force. The qualitative interviews provide some perspective on the employment issues faced by sample members, especially among those who had left jobs during the follow-up period. Among the 56 treatment-group respondents interviewed, we found that 15 had left jobs and not re-entered employment since the time of random assignment. At the same time, only 7 of the 56 treatment-group respondents had gained employment since random assignment. In contrast, among the control-group respondents, job-takers outnumbered job-leavers, 5 to 2, in the interviewed sample of 19.

Among those who had left a job (and not yet re-entered employment) at the time of the qualitative interview, the most common reason cited for not working again was the need to care for children. The job losses experienced by these workers reflected a variety of circumstances: terminations (some following disputes with supervisors), layoffs, and voluntary quits (some associated with a newborn child or unhappiness with job hours). The in-depth interviews generally indicated a pattern of job entry and exit in which the treatment-group job leavers tended to delay their re-entry into the job market. This is consistent with conventional microeconomic theory of labor-leisure choice, according to which the voucher could be expected to reduce labor supply because the rent subsidy both increases the household's income and reduces the worker's effective hourly wage.

Another notable finding is the favorable effect on number of quarters employed for those unemployed at baseline with a very low reservation wage ($3.00 to $5.99). This appears to be a low-skilled (and possibly younger) subgroup who may have succeeded in relocating to areas closer to low-wage job opportunities. (There was no evidence in Chapter Three, however, that the voucher users in this subgroup came to reside in areas of higher adult employment than did their control group counterparts.) The subsequent experience of this small subgroup (253 in number) bears closer attention as this evaluation progresses.

As discussed in Chapter Five, those residing in homeless shelters or transitional housing showed evidence of favorable effects in the form of reduced receipt of cash assistance. Because this subgroup was so small in number (only 178 in the analysis of cash assistance) and showed no effects on neighborhood quality in Chapter Three, one can only speculate on the factors contributing to their reduced reliance on cash assistance. As noted in Chapter Five, one consequence of relocation for such individuals may be that they lose cash assistance during the interval of time required to establish eligibility for benefits at a new residence.

6.3 Conclusion

As noted in Chapter One, there are a number of mechanisms through which a housing voucher may promote a family's well being:

- A voucher can increase discretionary income, through a reduction in the family's contribution to monthly rent—This income can be used to meet other basic household living needs.

- A voucher can increase the hours adults spend not working, in response to the higher income and lower effective pay rate resulting from the subsidy formula—These nonlabor hours can be devoted to greater involvement in children's lives or to job search, educational advancement, job training, or other human capital investments.

- A voucher can improve the family's physical housing conditions, through a change in housing unit—A move from one unit to another (even within the same immediate neighborhood) can enable a family to avoid an overcrowded living situation or substandard physical conditions. Repairs to meet the voucher's housing quality standards

can improve the housing conditions of voucher users who continue to rent their pre-program unit.

- A voucher can improve the family's housing location, either by moving to a better neighborhood or by avoiding a move to a worse neighborhood (and thereby gaining stability)—Relocation (or, for some, leasing in place) can put a family in closer proximity to job opportunities or to easier transportation to jobs. It can also influence other outcomes of family members through the quality and availability of local services and social networks, the presence of positive role models among adults and peers, and reduced exposure to crime and violence.

The evaluation findings presented in this report, based on available Census indicators of neighborhood quality and administrative data on receipt of earnings and public assistance, have dealt with only the second and fourth of these mechanisms. We have not studied improvements in well being through increased discretionary income or increases in the physical quality of the housing units occupied by voucher users. Moreover, the follow-up period encompassed by the available data, five quarters for all sites, is relatively brief. A key empirical question is whether the short-term favorable effects on neighborhood location will translate over time into increased earnings and reduced public assistance for the treatment group. Based on the qualitative interviews, one can expect that both treatment and control group members will make successive moves over the course of time. Even for those who do not move, the economic and social benefits derived from stability and locational advantage may take time to emerge.

Although the plans for the next phase of this evaluation are not final, the evaluation design calls for a follow-up survey of a subset of the research sample to occur in the fourth follow-up year of the demonstration.[72] The survey will address questions regarding the uses of discretionary income (e.g., to increase food security), the uses of nonlabor hours (e.g., for education and training activities and for parental supervision), issues of job search and job quality, and the characteristics of the family's housing unit and neighborhood environment. This upcoming data collection will thus support a much more comprehensive analysis of the effects of housing vouchers on welfare families.

Continued collection of administrative data on earnings and public assistance of all sample members is also anticipated. Further locational tracking of the sample will be conducted through a combination of active tracking methods (use of periodic mailouts to sample members requesting updated address and telephone information on the sample members and contact persons) and passive tracking methods (use of administrative and commercial databases to obtain updated address and telephone information). These tracking efforts will enable us not only to achieve a high survey response rate but also to extend forward the geocoded address histories of sample members and thus to attach tract-level indicators of neighborhood quality over a longer follow-up interval.

[72] See Mills, *et al.* (2003).

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Appendix A

Adjusting Impact Estimates for Nonparticipation and Crossover

Standard Adjustment for Nonparticipants and Crossovers

Comparison of outcomes for the entire treatment group with those of the entire control group provides an estimate of the average effect of the intervention on the entire treatment group, including nonparticipants (i.e., families that did not lease up). This is the so-called "intent to treat" (ITT) estimate. If not all members of the treatment group are exposed to the intervention, the average effect on the entire treatment group will be "diluted" by the presence of nonparticipants upon whom the intervention had little or no effect. The ITT estimate will therefore understate the effects on those who did participate — i.e., the effect of the "treatment on the treated" (TOT) impact. Similarly, if some control group members are exposed to the intervention, the difference in outcomes between the overall treatment and control groups is less than it would otherwise have been, again reducing the estimated average effect on treatment group members.

Unfortunately, we cannot simply remove the nonparticipants and crossovers from the analysis sample. To do so would destroy the comparability of the two groups, because nonparticipants and crossovers are likely to be atypical of the overall group to which they were assigned. Fortunately, in some circumstances it is still possible to infer the TOT impact.

Bloom (1984 and 1993) has shown that under certain assumptions an unbiased estimate of the impact on treatment group members who were participants *and* who would not have been crossovers had they been controls (i.e., "non-crossover-like" participants) can be derived simply by dividing the estimated impact on the overall treatment group by p-c, where p is the participation rate (the proportion of the treatment group exposed to the intervention) and c is the crossover rate (the proportion of the control group exposed to the intervention). This procedure yields an unbiased estimate of the TOT impact under the following two assumptions:

1. The experimental treatment has no effect on nonparticipants (in the present case, those who did not lease up); and,

2. The effect of the treatment on crossovers is the same as it would have been had the same sample member been assigned to the treatment group.

This adjustment makes no assumptions about the similarity of participants and nonparticipants or of crossovers and uncontaminated controls. It simply attributes the entire impact on the overall treatment group to non-crossover-like participants, under the assumption that the treatment had no effect on nonparticipants and that the effects on crossovers in the control group are just offset by the effects on crossover-like participants in the treatment group. As noted above, however, the resulting estimate applies only to non-crossover-like participants; it is not possible to estimate impacts on nonparticipants and crossover-like participants.[1]

[1] Although we cannot identify the specific individuals who are "non-crossover-like participants", because we cannot identify which treatment group members are "crossover-like," this group *can* be described in terms of their observable characteristics, by subtracting the distribution of characteristics of crossovers from the distribution of characteristics of participants in the treatment group.

The standard error of the TOT estimate is just the standard error of the ITT estimate times the same adjustment factor.[2] Since both the ITT estimate and its standard error are multiplied by the same factor in deriving the TOT estimate, the t-statistics of the two estimates are identical.

In this evaluation, the first assumption above seems quite reasonable. It seems unlikely that the mere *offer* of a housing voucher will have appreciable effects on the outcomes of interest if the family does not actually use the voucher. We recognize that the process of searching for a unit to lease could have either positive or negative effects – e.g., exposing the family to opportunities or possibilities they might not otherwise have considered or, conversely, discouraging them from further efforts to improve their situation. But it seems likely that, on balance, these effects will be quite small relative to the effects of actually receiving a rent subsidy. Therefore, we are comfortable applying the adjustment for nonparticipation (i.e., failure of treatment group members to lease up), which rests on this assumption.

The second assumption, however, seems less tenable in this study. In one sense, the intervention is virtually identical for participants in the treatment group and crossovers in the control group – both received a voucher and leased up. Although the demonstration sites originally planned to provide services to treatment group members that would not be available to controls who received vouchers through the regular program, it appears that these services never materialized. As noted above, however, treatment group members and controls received these vouchers at significantly different times. Thus, at any given number of months after random assignment, participants in the treatment group would have been leased up longer than crossovers. For example, if we were to estimate the impact of the treatment on some outcome 12 months after random assignment, nearly all of the participants in the treatment group would have leased up at least six months earlier, whereas only about a quarter of the crossovers would have been leased up that long. If, as one might expect, the effects of the voucher cumulate over time, one would not expect the voucher to have had the same effects *in month 12* on controls who had leased up with regular vouchers as on participants in the treatment group, who had leased up earlier. Thus, the standard adjustment for crossovers is probably not appropriate in this case.

Accounting for the Timing of Lease-up in Correcting for Nonparticipants and Crossovers

In this section, we derive a correction for nonparticipants and crossovers that takes into account the difference in timing between lease-ups in the treatment group and lease-ups in the control group.[3]

The standard ITT estimate in period k can be expressed as:

1) $$ITT_k = \overline{Y}_k^T - \overline{Y}_k^C$$

[2] This statement treats p and c as fixed numbers. The standard error of the TOT estimate is somewhat larger if one takes the sampling error associated with p and c into account. However, in large samples (roughly those in excess of 1,000), the component of the standard error of estimate attributable to the sampling error of these rates is negligible (see Heckman, 1998).

[3] The estimation procedure presented here is based on a suggestion by Steve Bell.

where:
$$= (1/n_T)\sum_{i=1}^{n_T}(Y_{ik}^{To} + \delta_{ik}^{T}) - (1/n_C)\sum_{i=1}^{n_C}(Y_{ik}^{Co} + \delta_{ik}^{C}),$$

$\overline{Y}_k^T$ = treatment group mean of outcome Y in period k

$\overline{Y}_k^C$ = control group mean of outcome Y in period k

Y_{ik}^{To} = outcome of the ith treatment group member in period k in the absence of the intervention

Y_{ik}^{Co} = outcome of the ith control group member in period k in the absence of the intervention

δ_{ik}^T = impact of the intervention on the ith treatment group member in period k

δ_{ik}^C = impact of the intervention on the ith control group member in period k

n_T = number of treatment group members

n_C = number of control group members

Without loss of generality, we can segment the summations in equation (1) into separate summations for the sets of individuals who leased up in each of the k periods since random assignment, so that:

2) $$ITT_k = (1/n_T)\left[\sum_{i=1}^{p_1 n_T}(Y_{ik}^{To} + \delta_{ik}^{T}) + \ldots + \sum_{i=n_T - p_k n_T + 1}^{n_T}(Y_{ik}^{CTo} + \delta_{ik}^{T})\right]$$

$$- (1/n_C)\left[\sum_{i=1}^{c_1 n_c}(Y_{ik}^{Co} + \delta_{ik}^{C}) + \ldots + \sum_{i=n_C - p_k n_C + 1}^{n_c}(Y_{ik}^{Co} + \delta_{ik}^{C})\right],$$

$$= \overline{Y}_k^{T0} - \overline{Y}_k^{C0} + \sum_{j=1}^{k} p_{jk}\delta_j - \sum_{j=1}^{k} c_{jk}\delta_j$$

where:

p_{jk} = proportion of the treatment group who have been leased up for j periods in period k

c_{jk} = proportion of the control group who have been leased up for j periods in period j

δ_j = the effect of the intervention on a sample member who has been leased up for j periods

With random assignment:

$$E(\overline{Y_k}^{T0} - \overline{Y_k}^{C0}) = 0$$

so that:

$$3) \quad E(ITT_k) = \sum_{j=1}^{k} E(p_{jk} - c_{jk})\delta_j = \sum_{j=1}^{k} \Delta p_{jk}\delta_j$$

where:

Δp_{jk} = expected value of the difference between the treatment and control groups in the proportion of individuals assigned in period k or earlier who have been leased up for j periods (i.e., who leased up in period k-j)

The ITT impact in a given period, then, is the sum of the impacts on sample subgroups who have been leased up for varying periods of time, weighted by the treatment-control difference in participation rates for each of those durations. To determine the time path of the effect after lease-up, we can solve equation (3) for δ_j, the impact on each of these groups. Equation (3) can be solved recursively as follows (it is also possible to solve simultaneously for this entire set of impact estimates; see below for details):

$$4) \quad \delta_1 = \frac{ITT_1}{\Delta p_{11}}$$

$$\delta_2 = \frac{ITT_2 - \Delta p_{21}\delta_1}{\Delta p_{22}}$$

$$\vdots$$

$$\delta_t = \frac{ITT_t - \sum_{\tau=1}^{t-1} \Delta p_{t\tau}\delta_\tau}{\Delta p_{t\tau}}$$

Note that this estimation procedure not only corrects for nonparticipants and crossovers, but also takes account of the lag between random assignment and lease-up.[4] Impacts are dated from the period in which the sample member leased up; impacts in earlier periods are assumed to be zero.

[4] The Bloom adjustment is a special case of this correction, in which all participants and crossovers are exposed to the intervention immediately after random assignment. In that case, $\Delta p = 0$ for all durations except $t = \tau$ and equation (4) reduces to: $\delta_\tau = ITT_t/\Delta p_t$.

This solution depends critically on the assumption that δ_j is constant across all individuals – i.e., that the effect of the program j periods after lease-up is the same for controls as for treatment group members and the same for sample members who lease up early as for those who lease up late (relative to both random assignment and calendar time). In further work, we will explore whether this assumption can be relaxed somewhat by estimating ITT_t as a function of individual characteristics and calculating δ_j conditional on the characteristics of the sample members who have been leased up for j periods. At a minimum, differences in impacts across sites can be taken into account by estimating site-specific impacts and then combining them into a single overall impact estimate. It will not be possible, however, to take into account differences in impacts due to unobserved characteristics.

Simultaneous Solution for Period-Specific Impact Estimates, Adjusted for Nonparticipants and Crossovers

In the text above, we provided a recursive solution for δ_j, the impact of the intervention j periods after lease-up. It is also possible to solve simultaneously for this entire set of impact estimates. In matrix notation, the t-period set of equations corresponding to text equation (3) can be written as:

A1.
$$\begin{pmatrix} ITT_1 \\ ITT_2 \\ ITT_3 \\ \vdots \\ ITT_t \end{pmatrix} = \begin{pmatrix} \Delta p_{1,1} & 0 & 0 & \cdots & 0 \\ \Delta p_{2,1} & \Delta p_{2,2} & 0 & \cdots & 0 \\ \Delta p_{3,1} & \Delta p_{3,2} & \Delta p_{3,3} & \cdots & 0 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \Delta p_{t,1} & \Delta p_{t,2} & \Delta p_{t,3} & \cdots & \Delta p_{t,t} \end{pmatrix} \begin{pmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \vdots \\ \delta_t \end{pmatrix}$$

Solving for δ_j:

A2.
$$\begin{pmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \vdots \\ \delta_t \end{pmatrix} = \begin{pmatrix} \Delta p_{1,1} & 0 & 0 & \cdots & 0 \\ \Delta p_{2,1} & \Delta p_{2,2} & 0 & \cdots & 0 \\ \Delta p_{3,1} & \Delta p_{3,2} & \Delta p_{3,3} & \cdots & 0 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \Delta p_{t,1} & \Delta p_{t,2} & \Delta p_{t,3} & \cdots & \Delta p_{t,3} \end{pmatrix}^{-1} \begin{pmatrix} ITT_1 \\ ITT_2 \\ ITT_3 \\ \vdots \\ ITT_t \end{pmatrix}$$

The variance-covariance matrix for δ_j is:

A3.
$$\text{VarCov}\begin{pmatrix} \delta_1 \\ \delta_2 \\ \vdots \\ \delta_3 \end{pmatrix} = (\Delta \text{P})^{-1} \text{VarCov}\begin{pmatrix} \text{ITT}_1 \\ \text{ITT}_2 \\ \vdots \\ \text{ITT}_t \end{pmatrix} (\Delta \text{P}')^{-1}$$

where:

A4. $$(\Delta P) = \begin{pmatrix} \Delta p_{1,1} & 0 & 0 & \cdots & 0 \\ \Delta p_{2,1} & \Delta p_{2,2} & 0 & \cdots & 0 \\ \Delta p_{3,1} & \Delta p_{3,2} & \Delta p_{3,3} & \cdots & 0 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \vdots & \vdots & \vdots & & \vdots \\ \Delta p_{t,1} & \Delta p_{t,2} & \Delta p_{t,3} & \cdots & \Delta p_{t,t} \end{pmatrix}$$

Appendix B

Baseline Sample Characteristics

Exhibit B.1
Baseline Characteristics of Sample Members, All Sites

Characteristic	Treatment Group (n=4,595)	Control Group (n=3,969)	Total[a] (n=8,564)
Site			
Atlanta	12.9%	12.9%	12.9%
Augusta	8.8%	8.7%	8.9%
Fresno	29.8%	30.0%	29.9%
Houston	23.2%	22.9%	23.0%
Los Angeles	11.9%	12.3%	12.1%
Spokane	13.4%	13.2%	13.3%
Gender			
Male	7.9%	7.6%	7.7%
Female	91.6%	92.0%	91.8%
Missing	0.6%	0.4%	0.5%
Marital status			
Never married	53.8%	54.1%	54.0%
Married	16.4%	16.5%	16.5%
Separated/divorced	23.9%	22.8%	23.3%
Widowed	1.4%	1.2%	1.3%
Missing	4.6%	5.4%	5.0%
Age in years			
Less than 18	0.3%	0.4%	0.3%
18 to 24	29.6%	30.8%	30.2%
25 to 34	38.7%	37.5%	38.1%
35 to 44	23.7%	23.2%	23.4%
45 to 54	6.8%	7.0%	6.9%
55 or more	0.9%	1.2%	1.1%
Average age	30.7	30.6	30.7
Race/ethnicity			
White, non-Hispanic	20.0%	19.2%	19.6%
Black, non-Hispanic	49.9%	49.7%	49.8%
Hispanic	20.7%	22.1%	21.4%
Other	8.3%	8.1%	8.2%
Missing	1.0%	0.9%	1.0%
Educational attainment			
High school diploma	39.4%	40.0%	39.7%
GED	17.5%	17.0%	17.2%
Neither high school diploma nor GED	35.9%	35.0%	35.4%
Missing	7.2%	8.1%	7.6%
Enrolled in school			
Yes	16.7%	16.2%	16.4%
No	79.5%	78.7%	79.1%
Missing	3.9%	5.1%	4.5%

Exhibit B.1 *(Continued)*
Baseline Characteristics of Sample Members, All Sites

Characteristic	Treatment Group (n=4,595)	Control Group (n=3,969)	Total[a] (n=8,564)
Average size of household	4.0	4.0	4.0
Employment status			
Working for pay:			
Yes	44.9%	44.1%	44.5%
No	51.4%	52.4%	51.9%
Missing	3.7%	3.6%	3.6%
Working for TANF benefits:			
Yes	11.9%	11.6%	11.8%
No	79.9%	80.6%	80.3%
Missing	8.2%	7.8%	8.0%
Attending school:			
Yes	17.1%	16.6%	16.8%
No	74.8%	75.5%	75.2%
Missing	8.1%	7.9%	8.0%
Looking for work:			
Yes	37.2%	37.7%	37.4%
No	55.2%	55.2%	55.2%
Missing	7.6%	7.2%	7.4%
Keeping house/caring for children:			
Yes	54.0%	54.8%	54.4%
No	38.2%	38.2%	38.2%
Missing	7.8%	7.0%	7.4%
Doing something else:			
Yes	8.1%	7.6%	7.8%
No	83.0%	83.8%	83.4%
Missing	8.9%	8.6%	8.8%
Average hourly wage[1] (for those working)	$6.95 (n=1,990)	$6.97 (n=1,667)	$6.96 (n=3,657)
Ever worked for pay			
Yes	80.6%	80.0%	80.3%
No	18.8%	19.7%	19.3%
Missing	0.7%	0.3%	0.5%

[1] A total of 3,375 survey respondents reported their wages on a per hour basis. Among the remaining respondents, 16 reported their earnings at their job on a per day basis, 85 reported their earnings on a per week basis, 102 reported their earnings every two weeks, 99 reported their earnings per month and 3 reported their yearly earnings. Respondents were also asked to specify the number of hours that they usually work in a typical week so that their hourly wages could be determined. In order to compute the hourly wages of respondents who reported their earnings on a per day basis, it was assumed that they work five days per week. It was also assumed that respondents who reported their earnings on a yearly basis, worked 52 weeks per year. Valid hourly wages were computed for 14 respondents who were paid on a per day basis, 80 respondents who reported their earnings on a per week basis, 97 respondents who were paid every two weeks, 88 respondents who reported monthly earnings and all 3 respondents who reported their earnings on a per year basis.

Exhibit B.1 *(Continued)*
Baseline Characteristics of Sample Members, All Sites

Characteristic	Treatment Group (n=4,595)	Control Group (n=3,969)	Total[a] (n=8,564)
Type of housing			
Rent apartment or house	55.8%	56.9%	56.3%
Own apartment or house	0.7%	0.8%	0.7%
Living with friends or relatives	26.3%	25.3%	25.8%
Public housing	7.1%	6.9%	7.0%
Assisted housing	5.6%	5.9%	5.7%
Homeless shelter or transitional housing	1.9%	1.8%	1.9%
Other	1.5%	1.5%	1.5%
Don't know	0.0%	0.1%	0.0%
Missing	1.2%	0.9%	1.0%
Average monthly rent	$310.83 (n=4,474)	$318.53 (n=3,866)	$314.43 (n=8,340)
Desire to move for employment reasons			
Yes	88.0%	88.0%	88.0%
No	11.8%	11.9%	11.9%
Don't know	0.0%	0.0%	0.0%
Missing	0.3%	0.1%	0.2%
Satisfaction with neighborhood			
Very satisfied	16.6%	17.0%	16.8%
Somewhat satisfied	23.2%	22.4%	22.8%
Neither satisfied nor dissatisfied	28.2%	27.1%	27.7%
Somewhat dissatisfied	14.6%	16.8%	15.7%
Very dissatisfied	16.7%	16.0%	16.4%
Missing	0.7%	0.8%	0.7%
Transportation			
Valid driver's license:			
Yes	60.0%	60.4%	60.2%
No	39.7%	39.3%	39.5%
Don't know	0.0%	0.0%	0.0%
Missing	0.3%	0.3%	0.3%
Access to a car that runs:			
Yes	40.2%	41.4%	40.8%
No	59.5%	58.2%	58.9%
Missing	0.3%	0.4%	0.4%
Childcare responsibilities			
Having responsibility for children in the home:			
Yes	90.1%	90.2%	90.1%
No	9.6%	9.4%	9.5%
Missing	0.3%	0.5%	0.4%
Receipt of TANF benefits			
Yes	79.7%	80.9%	80.3%
No	20.1%	19.0%	19.6%
Missing	0.2%	0.1%	0.2%

Exhibit B.1 *(Continued)*
Baseline Characteristics of Sample Members, All Sites

Characteristic	Treatment Group (n=4,595)	Control Group (n=3,969)	Total[a] (n=8,564)
Other sources of household income			
Food stamps:			
Yes	85.1%	86.4%	85.7%
No	14.4%	13.1%	13.8%
Missing	0.5%	0.5%	0.5%
SSI:			
Yes	10.5%	11.8%	11.2%
No	86.1%	84.7%	85.4%
Missing	3.4%	3.5%	3.5%
Child support:			
Yes	16.2%	15.7%	16.0%
No	80.4%	80.7%	80.5%
Missing	3.4%	3.6%	3.5%
WIC:			
Yes	39.0%	39.0%	39.0%
No	58.2%	58.3%	58.3%
Missing	2.8%	2.7%	2.8%
Unemployment compensation:			
Yes	2.9%	2.2%	2.5%
No	93.2%	93.5%	93.4%
Missing	3.9%	4.3%	4.1%
Social Security disability or survivor's benefits:			
Yes	6.2%	6.0%	6.1%
No	90.23	89.9%	90.1%
Missing	3.5%	4.1%	3.8%

[a] Of the 8,732 members of the research sample, baseline data are available for 8,564.
Source: Abt Associates, Baseline Survey.

Appendix C

Data Sources and Methods for Analysis of Lease-up Patterns

The total number of cases randomly assigned across all sites was 8,732, with 4,690 assigned to the treatment group and 4,042 assigned to the control group.[1] The distribution of treatment and control group cases across sites is shown in Exhibit C.1. The analysis uses these sample totals to examine the percentage of treatment and control group members who leased up with a voucher during the follow-up period.

Exhibit C.1
Research Sample, by Site

Site	Treatment Group	Control Group	Total
Atlanta	567	567	1,134
Augusta	410	349	759
Fresno	1,413	1,209	2,622
Houston	1,014	1,007	2,021
Los Angeles	615	432	1,047
Spokane	671	478	1,149
Total	4,690	4,042	8,732

Source: Random assignment data files

To calculate the lease-up rates, we used data reported to HUD by housing agencies through the MTCS. We obtained extracts of MTCS data from HUD based on the national files for May 2001, December 2001, and September 2002. Each of these files covered 18 months of program activity. All three files were used to identify those sample members that had leased up. The May 2001 extract generally contained information for the early months following random assignment, and the September 2002 contained information for later periods, especially for the Los Angeles site. We matched the MTCS extracts to the research sample file to identify sample members who had leased up after random assignment.

For those using vouchers, we identified the date on which the household began to receive their rental assistance. We refer to this as the lease-up date. A sample member is regarded as having leased up whether or not he/she was the head of their household at the time of lease-up.[2] The program admission date, effective date of the action, program type code, and program action code were the major variables used from the May 2001, December 2001, and September 2002 MTCS extracts to

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[1] In the *Interim Report on Quantitative Analysis* for this evaluation, the lease-up analysis was based on 8,702 records. Since that analysis was conducted, further refinements have been made to the research sample based on updated information on individual identifiers (e.g., social security numbers) and further review of the composition of the sample. These refinements resulted in 30 additional records with valid random assignment data that are now included in the final research sample and lease-up analysis.

[2] Eligibility criteria for the WtW voucher precluded from participation in the program any heads of household who, at the time of random assignment, already held a voucher or certificate (i.e., was using the subsidy or had been issued a new voucher). Individuals living in public housing were eligible, as were individuals in voucher households if they were not the household head (e.g., were living with parents). Therefore, we were able to conclude that any voucher program admission indicated in MTCS represented a new voucher lease-up.

determine the timing of new admissions (versus annual reexaminations, interim reexaminations, or other actions).[3]

Identifying the date of the household's first lease-up after random assignment was in some instances difficult because of seeming discrepancies in the recorded MTCS data. In general, as explained below, ***we define the date of lease-up as either the effective date of the action (for new admissions) or the date of program admission (for other action types).***[4]

Depending on the type of action recorded in MTCS, the date of program admission is either the same as or earlier than the effective date of action. For new admissions, the date of admission and the effective date of action are normally the same. Where they differ, the effective date is considered the better indicator of lease-up, as the effective date refers to either the signing of the lease or the actual occupancy of the unit (as opposed to, for instance, the issuance of the voucher to the participant). For actions other than new admissions, however, we encountered some effective dates that fell nearly two years after the date of random assignment.[5] Therefore, for action types other than new admission, the date of program admission was consistently used as the date of lease-up.

Note that only those MTCS-indicated actions where the program admission date followed the random assignment date were considered as a lease-up.[6] For some sample members, there was program activity preceding random assignment, as individuals were eligible for random assignment even if they belonged (as a non-head) to a household that held a voucher or if they resided in public housing.

For the analysis sample of 8,732 cases, the month of random assignment ranges from April 2000 to May 2001. It is important to note that the number of observed months between random assignment and September 2002 (the most recent month observed in the MTCS data) thus varies from as many as 29 months (for the earliest enrollees in Fresno and Houston) to as few as 16 months (for the latest enrollees in Los Angeles).[7] The estimates in Chapter 2 focus on lease-up rates at the 15th month and 21st month after random assignment, to be consistent with the time period over which impact estimates were conducted.

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[3] An action is the administrative transaction that triggers the completion of the HUD Form 50058, that is submitted to the MTCS system. There are 14 action codes included in the 50058: new admission, annual reexamination, interim reexamination, portability move-in, portability move-out, end of participation, other change of unit, FSS/WtW addendum, annual reexamination, issuance of voucher, expiration of voucher, flat rent annual update, annual HQS inspection, and historical adjustment.

[4] For actions other than new admissions, the following were considered as a lease-up if the program admission date followed the random assignment (RA) date: annual or interim re-examination, portability move-in or move-out, other change in unit, or HQS inspection. The following action codes were not counted as lease-ups: end of participation; annual reexamination searching; issuance of voucher, and expiration of voucher.

[5] This might occur, for instance, if the HA simply failed to record the new admission, but recorded a subsequent action.

[6] There were about 20 records in the May 2001 file and 32 in the December 2001 file that had a both pre-RA and a post-RA record. For these we used the post-RA record.

[7] The data allow for assessment of lease-up for the full research sample through Month 18 in all sites including Los Angeles, and through Month 25 for all sites excluding Los Angeles.

For any specified sample group defined by treatment-control status and/or site, the lease-up rate at any given month after random assignment—month k--is defined as:

> ***The number of group members currently leased-up at month k, divided by the total number of group members.***

The rate of control group lease-up, or crossover, is of particular interest to the evaluation. Control group lease-up could occur under several conceivable circumstances. As vouchers became available to the housing authority either through turnover in the regular HCV program or as the housing agencies received new allocations of vouchers, the housing agencies would work from their waiting list to issue the vouchers. Because control group members remained on the regular waiting lists after random assignment, their names could come up on the waiting list over time. Alternatively, a control group member might be shown in the data as having leased up in situations where the control group individual was not a household head but belonged to a household that had leased up either before or after random assignment.[8]

Factors that Influence Leasing Success

Although the evaluation is primarily aimed at estimating the effects of receiving a WtW voucher on outcomes such as neighborhood location, employment, and welfare receipt, it also provides an opportunity to examine the factors that contribute to successful use of a voucher. The study sample represents a large group of families in six diverse localities, all of whom received a WtW voucher upon being assigned to the treatment group. We can use the research sample to examine whether there are systematic relationships between individual characteristics and the likelihood that a respondent will be able to use their voucher to lease-up. We also examine which characteristics are associated with leasing-up and *moving*, as the WtW vouchers were expected to help families relocate to better neighborhoods.

To understand which characteristics of sample members are associated with successful leasing, we conducted multivariate analysis of the characteristics of treatment group members who leased a unit, using the full set of baseline characteristics that are used as covariates in the impact analyses. We examined two outcomes: first, whether the respondent leased up; and secondly, whether the respondent leased up *and moved*. Only treatment group members are included in the study sample for this analysis. Each outcome was examined both at month 15 (for all sites) and at month 21 (for all sites except Los Angeles).

The results of this analysis are shown in Exhibit C.2. The results do not show any clear pattern with respect to personal characteristics and their influence on leasing success. Holding all other factors equal, treatment group members who were working for pay and had been in their job for more than one year were *less* likely to have leased a unit with their voucher than those who were unemployed, or who had been working in their job for less than one year. Similarly, sample members who were residing in public or other assisted housing (based on self-reports) at baseline and individuals living with friends or relatives were *less* successful in using their vouchers than those who were renting their own apartment

[8] For instance, consider a household comprising of a grandmother, a mother, and a child. The mother, as a sample member, would be considered in our analysis as having leased up even if it was the grandmother who leased-up with a voucher.

or house at baseline (again holding all else equal). In addition, sample members who are White non-Hispanic, Hispanic, or of other racial groups were *less* likely to lease a unit with their WtW voucher than African American sample members.[9] Male sample members were less likely to be successful than females (though 92 percent of the WtWV research sample is female).

Holding other characteristics constant, sample members who received food stamps at baseline were more likely to have leased a unit with their voucher than those who did not receive food stamps. The last row of the exhibit shows that higher rates of unemployment in the evaluation sites at baseline are associated with higher rates of leasing success, when all other characteristics are held equal. The results of the regression analysis also show that, holding other individual characteristics constant, sample members in the Fresno site were less likely to have been successful in leasing a unit than individuals in other evaluation sites, despite the fact that Fresno had the second highest leasing success rate (70 percent) at Month 21. The reason for this discrepancy is that the regression results presented in Exhibits C.2 are from multivariate analyses that estimate the impact of a particular variable (such as site) *holding constant all other characteristics*. This can lead to regression-adjusted relationships that are quite different from the simple, unadjusted relationships between individual variables and the lease-up rate. Readers who wish to examine the unadjusted, univariate relationships between individual characteristics and lease-up rates (and move rates) are invited to examine Exhibit C.3. Exhibit C.3 presents the unadjusted percentage of persons who leased up (by month 15 and month 21) and who leased and moved (by month 15 and month 21), for various baseline subgroups.

Exhibit C.2 also examines the characteristics associated with successfully leasing a housing unit with the WtW voucher and using the voucher to move to a new location. Holding other characteristics equal, the results show that respondents enrolled in training programs and those whose TANF benefits are due to expire within 12-18 months were more likely than others to have used the voucher to lease and move to a new location. Residents of public housing were less likely than those in other types of housing arrangements at baseline to have leased and moved, and Whites and Hispanics were less likely to have leased and moved than were African Americans. Respondents who received SSI benefits at the time of baseline were less likely to have leased and moved than those who were not receiving SSI; and sample members in Fresno were less likely to have leased and moved than those in other evaluation sites.

Again, the multivariate regression results presented in Exhibit C.2 hold constant all other characteristics, while presenting the relationship between particular variables and the probability that a respondent will lease and move. Readers who wish to examine the unadjusted relationships between baseline characteristics and the likelihood that a respondent will lease and move are invoted to examine Exhibit C.3.

[9] Finkel and Kennedy (1992) examined leasing patterns among voucher recipients and found that leasing success rates tended to be higher for members of the majority group in a voucher program. That is, African Americans were found to have higher leasing success rates in voucher programs where the majority of participants were African American. The findings here appear to support the Finkel and Kennedy results.

Exhibit C.2
Detailed Regression Output: Lease-Up Rates and Mobility Rates Among Treatment Group Members

	Leased-up by Month 15, All Sites (n = 4690)		Leased-up by Month 21, All Sites Except Los Angeles (n = 4075)		Leased-up and Moved by Month 15, All Sites (n = 2668)		Leased-up and Moved by Month 21, All Sites Except Los Angeles (n = 2528)	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
Annual earnings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual earnings squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual earnings cubed	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Looking for work	0.007	0.114	0.003	0.117	0.157	0.112	0.148	0.124
Worked in same job for at least one year	-0.055	0.022**	-0.053	0.023**	-0.028	0.022	-0.024	0.024
Reservation wage: $3 - $5	-0.012	0.042	0.007	0.043	-0.007	0.044	0.011	0.046
Reservation wage: $9 - $12	-0.019	0.025	0.001	0.026	-0.009	0.024	-0.006	0.027
Reservation wage: $13 - $15	-0.065	0.040	-0.041	0.048	-0.030	0.036	-0.036	0.045
Had HS diploma	-0.010	0.018	-0.005	0.019	-0.007	0.017	-0.002	0.019
Had GED, not HS diploma	0.013	0.021	0.020	0.022	0.008	0.021	0.015	0.023
Was in training program and had started	0.000	0.024	0.014	0.026	-0.013	0.024	0.004	0.026
Was in training program and had not started	0.041	0.027	0.043	0.028	0.060	0.029**	0.053	0.031*
Lives with friends or relatives	-0.033	0.020*	-0.052	0.020**	-0.027	0.019	-0.015	0.020
Public or other assisted housing	-0.060	0.026**	-0.074	0.027***	-0.047	0.024*	-0.050	0.026*
Homeless shelter, transitional housing	-0.028	0.044	-0.033	0.046	0.025	0.044	0.020	0.048
Age of youngest person in household is 6 – 17	-0.002	0.019	-0.023	0.020	-0.004	0.017	-0.014	0.020
Age of youngest person in household is >= 18	0.021	0.037	-0.003	0.040	0.027	0.036	0.009	0.040
In school	-0.028	0.021	-0.021	0.023	-0.006	0.021	-0.020	0.024

Exhibit C.2 *(Continued)*
Detailed Regression Output: Lease-Up Rates and Mobility Rates Among Treatment Group Members

	Leased-up by Month 15, All Sites (n = 4690)		Leased-up by Month 21, All Sites Except Los Angeles (n = 4075)		Leased-up and Moved by Month 15, All Sites (n = 2668)		Leased-up and Moved by Month 21, All Sites Except Los Angeles (n = 2528)	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
White, non-Hispanic	-0.111	0.025***	-0.110	0.029***	-0.053	0.024**	-0.090	0.029***
Hispanic	-0.112	0.022***	-0.125	0.024***	-0.087	0.022***	-0.110	0.025***
Other	-0.113	0.035***	-0.143	0.040***	-0.031	0.032	-0.051	0.040
Age	-0.003	0.025	0.001	0.026	-0.006	0.025	0.003	0.029
Age squared	0.000	0.001	0.000	0.001	0.000	0.001	-0.001	0.001
Age cubed	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Male	-0.058	0.028**	-0.061	0.031*	-0.029	0.026	-0.037	0.030
Had car	0.011	0.017	0.012	0.018	-0.014	0.016	-0.013	0.019
Had valid driver's license	0.017	0.017	0.016	0.018	0.023	0.016	0.016	0.018
Was on AFDC	0.024	0.025	0.033	0.026	0.030	0.024	0.040	0.026
Has ever been on AFDC	0.095	0.172	0.074	0.172	0.056	0.153	0.038	0.146
TANF benefits to expire between 6 and 12 months from now	0.035	0.035	0.042	0.036	0.049	0.034	0.057	0.037
TANF benefits to expire between 12 and 18 months from now	0.040	0.037	0.040	0.038	0.082	0.038**	0.084	0.041**
TANF benefits to expire > 18 months from now	-0.025	0.033	-0.020	0.034	0.014	0.032	0.029	0.034
On food stamps	0.052	0.024**	0.034	0.026	-0.009	0.023	-0.002	0.025
On SSI	-0.033	0.024	-0.029	0.025	-0.040	0.023*	-0.046	0.026*
On medicaid	0.005	0.016	0.018	0.017	0.001	0.015	0.014	0.018
Was never married	0.011	0.018	0.008	0.019	0.000	0.017	-0.005	0.019

Exhibit C.2 *(Continued)*
Detailed Regression Output: Lease-Up Rates and Mobility Rates Among Treatment Group Members

	Leased-up by Month 15, All Sites (n = 4690)		Leased-up by Month 21, All Sites Except Los Angeles (n = 4075)		Leased-up and Moved by Month 15, All Sites (n = 2668)		Leased-up and Moved by Month 21, All Sites Except Los Angeles (n = 2528)	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
Has dependent children	0.066	0.025***	0.054	0.026**	0.000	0.024	-0.008	0.026
Household size: 2 persons	-0.013	0.021	-0.022	0.022	-0.008	0.021	-0.025	0.023
Household size: 4 persons	-0.031	0.020	-0.025	0.022	-0.040	0.019**	-0.035	0.022
Household size: 5 persons	-0.015	0.024	-0.020	0.025	-0.035	0.023	-0.034	0.026
Household size: 6 persons	-0.023	0.029	-0.011	0.031	-0.021	0.028	-0.026	0.031
Household size: 7 persons	-0.026	0.041	-0.048	0.043	-0.062	0.038	-0.090	0.042**
Household size: 8 persons	-0.044	0.037	-0.041	0.039	-0.033	0.035	-0.035	0.039
Rent burden (ratio of rent to household income)	-0.010	0.091	-0.066	0.101	-0.110	0.079	-0.075	0.097
Desires to move	0.000	0.020	0.004	0.021	-0.010	0.020	-0.012	0.022
Has moved more than three times in past five years	0.011	0.015	0.013	0.016	0.015	0.015	0.015	0.017
Site: Atlanta	9.372	2.263***	5.595	2.216**	8.801	2.198***	8.158	2.283***
Site: Augusta	7.865	1.851***	4.764	1.812***	7.115	1.800***	6.593	1.870***
Site: Houston	7.944	1.929***	4.736	1.889**	7.557	1.873***	7.041	1.945***
Site: Los Angeles	7.238	1.785***			6.741	1.733***		
Site: Spokane	7.406	1.770***	4.471	1.733**	6.889	1.718***	6.391	1.784***
MSA level unemployment rate	0.955	0.225***	0.579	0.220***	0.891	0.218***	0.827	0.226***

Notes

*** indicates that coefficient is significant at p<.01; ** indicates that coefficient is significant at p<.05; * indicates that coefficient is significant at p<.10.

Exhibit C.3
Lease-Up Rates And Mobility Rates Among Treatment Group Members By Subgroup

Subgroup	Percent Leased Up by Month 15	Percent Leased Up and Moved by Month 15	Percent Leased Up by Month 21	Percent Leased Up and Moved by Month 21
Study site[a]				
Atlanta	49.5	29.3	51.4	32.1
Augusta	75.2	23.9	76.1	27.9
Fresno	71.0	44.0	71.0	44.4
Houston	50.6	37.8	53.7	44.1
Los Angeles	34.3	6.4	NA	NA
Spokane	57.9	31.3	61.2	31.6
Gender				
Male	51.2	28.4	57.7	34.4
Female	58.4	33.1	63.1	39.3
Missing	42.5	27.6	49.2	30.5
Marital status				
Never married	60.6	35.3	64.1	40.9
Married	52.3	29.3	62.7	39.7
Separated/Divorced	57.4	30.3	60.7	34.5
Widowed	51.3	31.1	61.1	39.5
Missing	47.5	27.7	54.4	35.7
Age at random assignment				
<18	54.4	54.4	61.1	54.4
18-24	65.0	40.6	67.6	45.7
25-34	57.9	32.7	61.9	37.7
35-44	51.4	25.3	58.3	32.1
45-54	49.3	24.1	55.6	32.2
55+	45.1	24.4	53.3	40.4
Race/ethnicity				
White, nonHispanic	53.1	27.7	61.6	33.2
Black, nonHispanic	61.2	33.0	64.8	39.9
Hispanic	60.6	34.8	64.4	39.5
Other	54.2	34.2	58.8	40.7
Educational attainment				
High school diploma	56.4	29.8	62.4	36.7
GED	60.3	35.4	64.1	39.8
Neither high school diploma nor GED	59.5	35.4	63.1	40.8
Missing	50.4	28.8	57.1	38.6
Enrolled in school at baseline				
Yes	57.5	33.6	63.8	39.8
No	58.5	32.8	62.8	38.9
Missing	43.9	26.3	51.9	35.2

Exhibit C.3 *(Continued)*
Lease-Up Rates And Mobility Rates Among Treatment Group Members By Subgroup

Subgroup	Percent Leased Up by Month 15	Percent Leased Up and Moved by Month 15	Percent Leased Up by Month 21	Percent Leased Up and Moved by Month 21
Employment status at baseline				
Working for pay				
Yes	56.4	29.2	62.8	36.2
No	59.4	36.1	63.1	41.3
Missing	50.1	28.3	54.0	33.1
Working for TANF benefits				
Yes	62.0	34.7	65.6	39.0
No	57.6	32.9	62.7	39.6
Missing	53.6	27.6	57.2	32.3
Attending school				
Yes	57.1	34.1	63.9	41.4
No	58.2	32.8	62.8	38.9
Missing	55.2	29.2	58.7	33.7
Looking for work				
Yes	58.8	35.6	63.3	41.4
No	57.5	31.5	62.7	37.9
Missing	54.5	27.5	58.5	33.3
Keeping house/caring for children				
Yes	56.5	32.0	62.6	39.5
No	59.8	34.3	63.3	39.0
Missing	55.8	29.8	59.3	34.6
Doing something else				
Yes	64.0	39.9	67.1	44.1
No	57.4	32.4	62.5	38.9
Missing	55.4	29.0	59.4	34.3
Ever worked for pay				
Yes	58.0	35.0	61.3	39.9
No	59.7	38.3	66.2	46.4
Missing	57.2	29.9	63.0	36.6
Type of housing at baseline				
Rent apartment or house	59.1	31.9	66.2	38.8
Own apartment or house	52.9	23.8	58.3	28.3
Living with friends or relatives	57.6	33.6	60.0	39.5
Public housing	53.8	32.9	56.4	38.1
Assisted housing	51.7	35.1	54.9	39.9
Homeless shelter or transitional housing	53.7	35.8	58.1	37.8
Other	59.6	28.0	64.1	32.2
Don't know	NA	NA	NA	NA
Missing	54.7	45.5	57.6	48.0

Exhibit C.3 *(Continued)*
Lease-Up Rates And Mobility Rates Among Treatment Group Members By Subgroup

Subgroup	Percent Leased Up by Month 15	Percent Leased Up and Moved by Month 15	Percent Leased Up by Month 21	Percent Leased Up and Moved by Month 21
Desire to move at baseline				
Yes	58.9	34.3	63.3	40.1
No	49.7	21.4	57.1	28.8
Don't know	NA	NA	NA	NA
Missing	48.9	17.3	44.9	27.9
Satisfaction with neighborhood at baseline				
Very satisfied	52.8	25.1	59.6	31.2
Somewhat satisfied	55.1	30.3	60.2	37.2
Neither satisfied nor dissatisfied	58.4	34.5	63.0	40.6
Somewhat dissatisfied	61.6	36.2	65.7	41.0
Very dissatisfied	62.3	37.5	65.7	43.7
Missing	46.9	33.4	49.9	37.0
Transportation				
Valid driver's license				
Yes	57.2	31.1	62.9	37.7
No	58.6	35.1	62.2	40.6
Don't know	NA	NA	NA	NA
Missing	57.1	41.4	57.2	41.4
Access to a car that runs				
Yes	57.4	29.6	63.5	35.8
No	58.1	34.8	62.2	40.9
Missing	38.4	32.6	36.8	30.3
Childcare responsibilities				
Have responsibility for children in the home				
Yes	58.4	32.6	63.4	38.8
No	52.1	33.8	56.5	39.6
Missing	44.6	44.6	44.6	44.6
Receipt of TANF benefits at baseline				
Receiving TANF at baseline				
Yes	59.1	34.3	64.8	41.7
No	54.2	28.7	56.9	32.5
Missing	49.0	19.9	51.7	21.6

Exhibit C.3 *(Continued)*
Lease-Up Rates And Mobility Rates Among Treatment Group Members By Subgroup

Subgroup	Percent Leased Up by Month 15	Percent Leased Up and Moved by Month 15	Percent Leased Up by Month 21	Percent Leased Up and Moved by Month 21
Other sources of household income at baseline				
Food stamps				
Yes	59.0	33.2	64.0	39.8
No	50.4	29.0	54.8	33.3
Missing	60.5	55.5	60.5	55.5
SSI:				
Yes	54.1	30.3	58.4	35.3
No	58.2	32.8	63.2	39.2
Missing	57.0	39.2	60.1	43.7
Child support				
Yes	62.7	33.1	65.5	37.1
No	56.9	32.4	62.2	39.2
Missing	54.5	37.1	57.1	41.8
WIC				
Yes	61.1	35.9	65.4	41.9
No	55.6	30.5	60.8	36.8
Missing	55.5	34.2	57.7	38.3
Unemployment compensation				
Yes	53.2	29.9	61.5	35.3
No	58.0	32.7	62.9	39.0
Missing	54.7	36.0	56.6	39.9
Social Security disability or survivor's benefits				
Yes	57.0	30.6	60.4	36.2
No	58.0	32.7	63.1	39.1
Missing	52.5	35.5	55.7	39.7

Source: Baseline Survey

[a]Lease-up rates diverge slightly from those presented in Chapter Two. This difference reflects the slightly different sample sizes used to calculate the two sets of numbers. The sample upon which Exhibit C.3 is based is restricted to observations with non-missing values for the baseline survey. The lease-up rates presented in Chapter Two did not require this data restriction.

Appendix D

Impacts on Where People Live: Detailed Estimates

Exhibit D.1
Impacts by Subgroup on Out-of-Tract Mobility

Subgroup	*Quarter 5, All Sites*						*Quarter 7, All Sites Except Los Angeles*					
	Sample Size	Control Mean	ITT Impact		TOT Impact		Sample Size	Control Mean	ITT Impact		TOT Impact	
White, non-Hispanic	1440	20.18	15.53	***	35.62	***	1139	26.41	15.58	***	35.03	***
			(2.26)		(5.14)				(2.68)		(5.73)	
Black, non-Hispanic	2862	33.13	8.99	***	20.69	***	2584	47.30	6.69	***	18.00	***
			(1.75)		(3.95)				(1.82)		(4.26)	
Hispanic	1786	37.45	4.57	**	11.58	**	1603	46.40	3.52		9.68	*
			(2.29)		(5.19)				(2.47)		(5.46)	
Working at baseline	3652	29.22	8.75	***	19.57	***	2942	39.76	7.86	***	19.09	***
			(1.49)		(3.46)				(1.76)		(3.89)	
Not working at baseline	4285	34.31	11.24	***	26.12	***	3995	48.86	7.97	***	20.58	***
			(1.44)		(3.16)				(1.44)		(3.24)	
Ever worked at baseline	6999	31.25	9.39	***	21.56	***	6106	43.68	7.43	***	18.88	***
			(1.10)		(2.51)				(1.19)		(2.71)	
Never worked at baseline	1192	35.88	10.73	***	26.28	***	1080	53.67	8.04	***	19.95	***
			(2.91)		(6.18)				(2.87)		(6.16)	
Age 24 and under	2496	34.73	13.16	***	27.42	***	2415	47.35	9.32	***	22.06	***
			(1.90)		(3.81)				(1.89)		(3.95)	
Age 25 - 34	3171	33.67	8.81	***	21.15	***	2868	46.06	6.05	***	14.90	***
			(1.67)		(3.82)				(1.75)		(4.08)	
Age 35 - 44	1946	27.29	6.54	***	17.07	***	1495	40.61	3.96		13.37	**
			(2.05)		(5.37)				(2.47)		(5.99)	
Age 45 and older	662	24.83	5.50		14.70		491	41.64	11.36	***	30.90	***
			(3.44)		(9.20)				(4.23)		(10.57)	
Any dependent children	7443	32.40	8.67	***	19.97	***	6495	45.41	6.59	***	16.92	***
			(1.07)		(2.40)				(1.15)		(2.57)	
No dependent children	768	26.64	18.45	***	45.86	***	709	42.08	13.98	***	38.62	***
			(3.45)		(8.45)				(3.55)		(9.04)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.1 *(Continued)*
Impacts by Subgroup on Out-of-Tract Mobility

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Not on TANF	1512	30.64	9.91	***	24.34	***	1445	41.44	6.79	***	16.27	**
			(2.42)		(6.08)				(2.50)		(6.52)	
TANF expires within 6 months	990	39.12	4.18		10.71		939	57.87	2.33		10.01	
			(3.12)		(7.23)				(2.99)		(7.47)	
TANF expires in 6 - 12 months	535	35.17	9.76	**	26.10	***	484	48.67	5.21		18.28	*
			(4.21)		(9.31)				(4.47)		(9.93)	
TANF expires in 12 - 18 months	373	33.65	18.62	***	37.27	***	348	41.84	17.61	***	38.48	***
			(5.32)		(10.36)				(5.56)		(11.17)	
TANF expires in > 18 months	679	28.30	12.30	***	31.71	***	632	40.89	9.93	**	25.22	***
			(3.75)		(8.64)				(3.91)		(9.13)	
On TANF at baseline	6417	32.67	9.42		21.78	***	5482	41.80	7.24		18.56	***
			(1.15)		(2.55)				(0.79)		(2.71)	
Not on TANF at baseline	1512	30.64	9.91	***	24.34	***	1445	41.44	6.79	***	16.27	**
			(2.42)		(6.08)				(2.50)		(6.52)	
Desires to move for employment reasons	1181	36.12	6.36	**	14.58	**	1068	48.74	5.63	*	15.86	**
			(2.81)		(5.92)				(2.97)		(6.27)	
Does not desire to move for employment reasons	7046	31.18	10.08	***	23.55	***	6153	44.65	7.46	***	19.03	***
			(1.09)		(2.51)				(1.18)		(2.69)	
Employed (reservation wage not asked)	3652	29.22	8.75	***	19.57	***	2942	39.76	7.86	***	19.09	***
			(1.49)		(3.46)				(1.76)		(3.89)	
Reservation wage is 3 - 5.99	252	41.47	2.22		4.91		242	50.89	-1.11		1.85	
			(7.13)		(14.23)				(7.41)		(15.34)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.1 *(Continued)*
Impacts by Subgroup on Out-of-Tract Mobility

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Reservation wage is 6 - 8.99	2200	35.65	10.31	***	23.90	***	2076	49.21	6.89	***	17.17	***
			(2.03)		(4.28)				(2.05)		(4.44)	
Reservation wage is 9 - 12.99	1047	26.75	16.26	***	35.96	***	896	42.63	14.84	***	36.28	***
			(2.89)		(6.94)				(3.08)		(7.70)	
Reservation wage is 13 - 15.99	291	33.68	4.28		23.06		221	55.76	-9.93		-22.60	
			(6.16)		(19.72)				(7.41)		(20.15)	
Rents or owns apartment or house	4772	31.27	7.73	***	17.65	***	3924	41.21	6.65	***	16.64	***
			(1.31)		(2.95)				(1.50)		(3.22)	
Lives with friends or relatives	2116	31.97	12.27	***	27.81	***	2017	49.39	7.85	***	19.68	***
			(2.07)		(4.53)				(2.08)		(4.88)	
Resides in public or other assisted housing	1080	34.74	11.72	***	28.67	***	1037	52.80	8.12	***	21.79	***
			(2.94)		(7.45)				(2.79)		(7.52)	
Homeless shelter, transitional housing	185	32.24	16.34	*	20.49		173	42.79	12.30		19.80	
			(8.48)		(21.49)				(8.43)		(20.44)	
Enrolled in a job training program	1062	32.27	7.28	**	17.09	***	969	45.52	5.13	*	13.21	**
			(2.90)		(6.42)				(3.05)		(6.69)	
Enrolled in, but has not yet started, a job training program	575	36.25	11.76	***	25.50	***	546	47.06	10.25	**	24.10	***
			(4.20)		(8.73)				(4.32)		(9.12)	
Not in a job training program	6542	31.49	9.52	***	22.14	***	5671	44.87	7.02	***	18.12	***
			(1.14)		(2.60)				(1.23)		(2.81)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.1 *(Continued)*
Impacts by Subgroup on Out-of-Tract Mobility

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
High school diploma	3256	28.79	8.70	***	20.26 ***	2711	41.03	6.47	***	17.11 ***
			(1.58)		(3.66)			(1.80)		(4.00)
GED (but no high school diploma)	1402	32.30	11.48	***	23.23 ***	1331	44.09	6.06	**	14.66 ***
			(2.58)		(5.33)			(2.61)		(5.63)
Neither a HS diploma nor GED	2953	35.88	8.96	***	21.55 ***	2659	49.14	7.40	***	18.51 ***
			(1.75)		(3.97)			(1.82)		(4.19)
Age of youngest person in household is less than 6 years	5324	33.75	10.67	***	24.16 ***	4920	45.96	8.43	***	20.53 ***
			(1.28)		(2.82)			(1.32)		(2.94)
Age of youngest person in household is 6 - 17 years	2643	28.77	6.77	***	17.64 ***	2085	43.97	4.61	**	14.53 ***
			(1.76)		(4.41)			(2.08)		(5.02)
Age of youngest person in household is 18 years or more	380	29.91	9.78	*	16.47	334	42.81	4.56		9.77
			(5.23)		(12.22)			(5.73)		(13.67)
Enrolled in school	1369	32.28	7.82	***	19.93 ***	1194	43.61	5.98	**	16.70 ***
			(2.53)		(6.13)			(2.74)		(6.40)
Not enrolled in school	6498	32.02	10.17	***	22.89 ***	5721	45.48	7.53	***	18.79 ***
			(1.14)		(2.53)			(1.23)		(2.72)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.2
Impacts by Subgroup on Within-Tract Mobility

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
White, non-Hispanic	1440	1.94	0.06	0.66	1139	2.50	-0.06	0.12
			(0.75)	(1.71)			(0.95)	(2.02)
Black, non-Hispanic	2862	2.31	-0.05	-0.01	2584	3.00	0.37	0.37
			(0.56)	(1.26)			(0.69)	(1.53)
Hispanic	1786	3.33	-0.87	-2.03	1603	3.68	-0.75	-1.75
			(0.81)	(1.84)			(0.91)	(2.01)
Working at baseline	3652	2.48	-0.41	-0.82	2942	3.06	-0.02	0.02
			(0.50)	(1.15)			(0.64)	(1.40)
Not working at baseline	4285	2.04	-0.02	-0.02	3995	2.73	0.00	-0.18
			(0.43)	(0.95)			(0.52)	(1.12)
Ever worked at baseline	6999	2.16	-0.02	0.04	6106	2.79	0.30	0.60
			(0.35)	(0.79)			(0.43)	(0.95)
Never worked at baseline	1192	2.45	-0.05	-0.19	1080	3.21	-0.38	-1.18
			(0.94)	(1.98)			(1.09)	(2.25)
Age 24 and under	2496	1.91	-0.25	-0.35	2415	2.85	-0.02	-0.20
			(0.53)	(1.08)			(0.67)	(1.33)
Age 25 - 34	3171	2.39	-0.13	-0.19	2868	2.95	0.14	0.07
			(0.54)	(1.24)			(0.65)	(1.47)
Age 35 - 44	1946	2.04	0.39	0.97	1495	2.15	0.95	2.38
			(0.68)	(1.72)			(0.86)	(2.05)
Age 45 and older	662	2.64	0.16	-0.09	491	4.39	-1.45	-3.23
			(1.19)	(3.23)			(1.74)	(4.22)
Any dependent children	7443	2.08	0.10	0.30	6495	2.61	0.45	0.88
			(0.33)	(0.75)			(0.41)	(0.89)
No dependent children	768	3.37	-1.21	-3.36	709	5.43	-2.77 *	-6.95 *
			(1.22)	(2.96)			(1.56)	(3.76)

Notes
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.2 *(Continued)*
Impacts by Subgroup on Within-Tract Mobility

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Not on TANF	1512	2.71	-0.04		-0.08		1445	2.80	0.71		0.96	
			(0.85)		(2.01)				(0.94)		(2.14)	
TANF expires within 6 months	990	0.85	2.26	**	4.91	**	939	1.55	2.42	**	5.77	**
			(0.89)		(2.00)				(1.07)		(2.58)	
TANF expires in 6 - 12 months	535	2.92	-0.81		-1.51		484	3.62	-1.42		-2.38	
			(1.34)		(3.03)				(1.53)		(3.34)	
TANF expires in 12 - 18 months	373	1.98	-1.62		-3.19		348	4.13	-3.91	**	-8.03	**
			(1.40)		(2.72)				(1.85)		(3.75)	
TANF expires in > 18 months	679	2.77	-2.48	**	-6.18	**	632	4.49	-2.45		-6.15	*
			(1.09)		(2.54)				(1.57)		(3.33)	
On TANF at baseline	6417	2.05	-0.02		0.01		5482	2.55	0.06		0.15	
			(0.35)		(0.78)				(0.45)		(0.95)	
Not on TANF at baseline	1512	2.71	-0.04		-0.08		1445	2.80	0.71		0.96	
			(0.85)		(2.01)				(0.94)		(2.14)	
Desires to move for employment reasons	1181	2.26	-0.82		-2.02		1068	2.49	-0.23		-0.68	
			(0.83)		(1.71)				(0.97)		(1.94)	
Does not desire to move for employment reasons	7046	2.18	0.10		0.33		6153	2.94	0.19		0.34	
			(0.35)		(0.80)				(0.44)		(0.97)	
Employed (reservation wage not asked)	3652	2.48	-0.41		-0.82		2942	3.06	-0.02		0.02	
			(0.50)		(1.15)				(0.64)		(1.40)	
Reservation wage is 3 - 5.99	252	2.71	5.97	**	12.34	**	242	2.85	6.73	**	14.79	**
			(2.83)		(5.58)				(3.02)		(6.43)	

Notes
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.2 *(Continued)*
Impacts by Subgroup on Within-Tract Mobility

Subgroup	*Quarter 5, All Sites* Sample Size	Control Mean	ITT Impact	TOT Impact	*Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	ITT Impact	TOT Impact
Reservation wage is 6 - 8.99	2200	2.49	-0.34	-0.71	2076	2.88	0.14	0.27
			(0.66)	(1.38)			(0.76)	(1.59)
Reservation wage is 9 - 12.99	1047	1.98	-0.66	-1.56	896	3.50	-1.30	-3.14
			(0.79)	(1.92)			(1.09)	(2.50)
Reservation wage is 13 - 15.99	291	1.76	-0.90	See note a.	221	4.08	-1.64	See note a.
			(1.46)				(2.45)	
Rents or owns apartment or house	4772	2.26	0.07	0.24	3924	2.99	0.10	0.18
			(0.44)	(0.98)			(0.55)	(1.17)
Lives with friends or relatives	2116	2.12	-0.27	-0.45	2017	3.25	-0.26	-0.80
			(0.60)	(1.29)			(0.77)	(1.73)
Resides in public or other assisted housing	1080	2.31	-0.45	-1.21	1037	1.92	1.17	2.82
			(0.88)	(2.14)			(0.97)	(2.35)
Homeless shelter, transitional housing	185	1.41	-0.76	See note a.	173	1.47	-0.78	See note a.
			(2.74)				(2.85)	
Enrolled in a job training program	1062	2.40	1.17	2.54	969	2.52	1.19	2.58
			(1.00)	(2.24)			(1.11)	(2.39)
Enrolled in, but has not yet started, a job training program	575	1.49	0.41	0.72	546	1.95	0.61	1.06
			(1.17)	(2.53)			(1.39)	(2.94)
Not in a job training program	6542	2.21	-0.15	-0.29	5671	3.01	0.00	-0.12
			(0.36)	(0.81)			(0.45)	(1.00)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10
[a]Estimate could not be obtained because of matrix singularities.

Exhibit D.2 *(Continued)*
Impacts by Subgroup on Within-Tract Mobility

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3256	2.17	0.07	0.08	2711	2.96	0.29	0.27
			(0.52)	(1.20)			(0.67)	(1.44)
GED (but no high school diploma)	1402	1.53	0.16	0.68	1331	2.08	1.22	2.11
			(0.72)	(1.51)			(0.93)	(1.86)
Neither a HS diploma nor GED	2953	2.51	-0.86	-1.96	2659	3.02	-0.81	-1.50
			(0.53)	(1.20)			(0.62)	(1.40)
Age of youngest person in household is less than 6 years	5324	2.18	-0.28	-0.59	4920	2.82	-0.09	-0.34
			(0.39)	(0.86)			(0.47)	(1.00)
Age of youngest person in household is 6 - 17 years	2643	1.98	0.55	1.33	2085	2.63	1.15	2.79
			(0.57)	(1.39)			(0.77)	(1.81)
Age of youngest person in household is 18 years or more	380	3.25	0.16	0.37	334	4.19	-1.57	-4.21
			(2.02)	(4.93)			(2.29)	(5.50)
Enrolled in school	1369	2.61	-0.20	-0.50	1194	3.00	-0.19	-0.76
			(0.79)	(1.94)			(1.01)	(2.28)
Not enrolled in school	6498	2.23	-0.10	-0.15	5721	2.91	0.12	0.18
			(0.36)	(0.79)			(0.45)	(0.96)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.3
Impacts by Subgroup on Neighborhood Poverty Rate

Subgroup	*Quarter 5, All Sites* Sample Size	Control Mean	ITT Impact		TOT Impact		*Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	ITT Impact		TOT Impact	
White, non-Hispanic	1440	20.74	0.41		1.21		1139	20.83	0.45		0.80	
			(0.36)		(0.82)				(0.46)		(0.99)	
Black, non-Hispanic	2862	28.40	-0.94	**	-2.02	**	2584	28.63	-1.41	***	-3.26	***
			(0.37)		(0.82)				(0.42)		(0.96)	
Hispanic	1786	31.34	0.19		0.51		1603	31.72	0.15		0.31	
			(0.43)		(0.97)				(0.49)		(1.08)	
Working at baseline	3652	26.81	-0.02		-0.10		2942	27.41	-0.18		-0.47	
			(0.27)		(0.63)				(0.34)		(0.76)	
Not working at baseline	4285	28.23	-0.16		-0.25		3995	28.56	-0.41		-1.00	
			(0.28)		(0.62)				(0.32)		(0.71)	
Ever worked at baseline	6999	27.15	-0.10		-0.18		6106	27.61	-0.30		-0.74	
			(0.21)		(0.47)				(0.24)		(0.55)	
Never worked at baseline	1192	30.37	-0.68		-1.41		1080	30.83	-0.64		-1.50	
			(0.58)		(1.21)				(0.67)		(1.42)	
Age 24 and under	2496	28.07	-1.18	***	-2.30	***	2415	28.27	-1.43	***	-3.13	***
			(0.39)		(0.78)				(0.43)		(0.90)	
Age 25 - 34	3171	27.38	0.32		0.67		2868	27.64	0.26		0.58	
			(0.32)		(0.74)				(0.36)		(0.83)	
Age 35 - 44	1946	27.89	-0.12		-0.23		1495	28.93	-0.42		-0.96	
			(0.34)		(0.88)				(0.45)		(1.09)	
Age 45 and older	662	26.46	1.02		2.49		491	27.41	1.25		2.82	
			(0.59)		(1.55)				(0.86)		(2.18)	
Any dependent children	7443	27.46	-0.10		-0.17		6495	27.95	-0.29		-0.71	
			(0.20)		(0.46)				(0.24)		(0.53)	
No dependent children	768	29.24	-0.92		-2.31		709	29.44	-0.85		-2.48	
			(0.63)		(1.55)				(0.73)		(1.82)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.3 *(Continued)*
Impacts by Subgroup on Neighborhood Poverty Rate

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Not on TANF	1512	24.60	-0.41	-1.20	1445	24.75	-0.58		-1.32	
			(0.46)	(1.13)			(0.51)		(1.28)	
TANF expires within 6 months	990	28.45	-0.83	-1.84	939	28.51	-1.02	*	-2.70	*
			(0.57)	(1.30)			(0.65)		(1.61)	
TANF expires in 6 - 12 months	535	29.40	-0.85	-2.08	484	30.05	-1.05		-2.39	
			(0.84)	(1.84)			(0.94)		(2.11)	
TANF expires in 12 - 18 months	373	29.88	-0.04	-0.17	348	30.61	-0.24		-0.73	
			(1.13)	(2.19)			(1.21)		(2.45)	
TANF expires in > 18 months	679	28.19	0.00	-0.06	632	28.41	-0.67		-1.53	
			(0.68)	(1.56)			(0.76)		(1.80)	
On TANF at baseline	6417	28.44	-0.19	-0.37	5482	28.33	-0.39	*	-0.98	*
			(0.22)	(0.49)			(0.26)		(0.57)	
Not on TANF at baseline	1512	24.60	-0.41	-1.20	1445	24.75	-0.58		-1.32	
			(0.46)	(1.13)			(0.51)		(1.28)	
Desires to move for employment reasons	1181	26.38	-0.28	-0.55	1068	26.71	-0.42		-1.18	
			(0.51)	(1.07)			(0.58)		(1.22)	
Does not desire to move for employment reasons	7046	27.85	-0.16	-0.34	6153	28.35	-0.35		-0.85	
			(0.21)	(0.48)			(0.25)		(0.56)	
Employed (reservation wage not asked)	3652	26.81	-0.02	-0.10	2942	27.41	-0.18		-0.47	
			(0.27)	(0.63)			(0.34)		(0.76)	
Reservation wage is 3 - 5.99	252	29.62	-0.90	-2.10	242	30.78	-0.78		-2.37	
			(1.51)	(2.98)			(1.74)		(3.48)	
Reservation wage is 6 - 8.99	2200	28.98	-0.10	-0.20	2076	29.07	-0.28		-0.68	
			(0.40)	(0.85)			(0.44)		(0.95)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.3 *(Continued)*
Impacts by Subgroup on Neighborhood Poverty Rate

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Reservation wage is 9 - 12.99	1047	26.02	-0.83		-1.34		896	26.37	-1.21		-2.77	
			(0.56)		(1.34)				(0.69)		(1.69)	
Reservation wage is 13 - 15.99	291	27.16	-0.80		-3.54		221	27.33	0.17		0.97	
			(1.06)		(3.47)				(1.55)		(4.24)	
Rents or owns apartment or house	4772	27.41	0.24		0.55		3924	28.19	0.23		0.47	
			(0.24)		(0.54)				(0.29)		(0.63)	
Lives with friends or relatives	2116	25.16	0.09		0.33		2017	25.53	-0.42		-1.10	
			(0.36)		(0.78)				(0.41)		(0.94)	
Resides in public or other assisted housing	1080	33.41	-2.15	***	-5.34	***	1037	32.76	-1.72	**	-4.82	**
			(0.68)		(1.67)				(0.74)		(1.96)	
Homeless shelter, transitional housing	185	26.38	-0.75		1.08		173	26.90	-2.25		-3.88	
			(2.06)		(5.40)				(2.35)		(6.03)	
Enrolled in a job training program	1062	28.60	-0.16		-0.28		969	28.98	-0.45		-1.10	
			(0.56)		(1.22)				(0.65)		(1.44)	
Enrolled in, but has not yet started, a job training program	575	29.68	-0.61		-0.72		546	30.07	-1.02		-2.27	
			(0.90)		(1.86)				(1.01)		(2.14)	
Not in a job training program	6542	27.26	-0.10		-0.24		5671	27.74	-0.24		-0.65	
			(0.21)		(0.49)				(0.25)		(0.57)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.3 *(Continued)*
Impacts by Subgroup on Neighborhood Poverty Rate

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
High school diploma	3256	25.14	0.19	0.53	2711	25.62	0.13		0.28	
			(0.29)	(0.67)			(0.35)		(0.79)	
GED (but no high school diploma)	1402	26.37	-0.16	-0.26	1331	26.47	-0.49		-1.28	
			(0.49)	(1.00)			(0.54)		(1.16)	
Neither a HS diploma nor GED	2953	30.78	-0.43	-0.95	2659	31.18	-0.61	*	-1.47	*
			(0.34)	(0.77)			(0.39)		(0.89)	
Age of youngest person in household is less than 6 years	5324	27.93	-0.38	-0.79	4920	28.18	-0.59	**	-1.35	**
			(0.25)	(0.55)			(0.28)		(0.63)	
Age of youngest person in household is 6 - 17 years	2643	27.19	0.30	0.74	2085	28.19	0.14		0.24	
			(0.31)	(0.77)			(0.40)		(0.96)	
Age of youngest person in household is 18 years or more	380	26.97	-0.91	-1.56	334	26.89	-0.14		-0.99	
			(1.00)	(2.31)			(1.21)		(2.75)	
Enrolled in school	1369	26.49	0.72	1.91	1194	26.93	0.71		1.63	
			(0.49)	(1.17)			(0.58)		(1.34)	
Not enrolled in school	6498	27.78	-0.31	-0.67	5721	28.27	-0.56	**	-1.30	**
			(0.22)	(0.48)			(0.25)		(0.56)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.4
Impacts by Subgroup on Neighborhood Percent Minority

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
White, non-Hispanic	1440	38.29	0.78 *	1.89 *	1139	32.75	0.96	1.96
			(0.48)	(1.11)			(0.61)	(1.30)
Black, non-Hispanic	2862	79.85	-0.54	-1.06	2584	78.76	-0.74	-1.44
			(0.49)	(1.09)			(0.56)	(1.30)
Hispanic	1786	74.29	0.39	0.96	1603	72.83	0.29	0.66
			(0.52)	(1.19)			(0.61)	(1.34)
Working at baseline	3652	70.88	0.26	0.60	2942	68.99	0.20	0.44
			(0.37)	(0.85)			(0.46)	(1.02)
Not working at baseline	4285	70.14	0.10	0.27	3995	69.67	0.02	0.08
			(0.36)	(0.79)			(0.41)	(0.91)
Ever worked at baseline	6999	70.19	0.22	0.48	6106	68.93	0.07	0.22
			(0.27)	(0.61)			(0.32)	(0.73)
Never worked at baseline	1192	74.39	-0.08	-0.04	1080	74.66	0.12	0.27
			(0.74)	(1.53)			(0.82)	(1.73)
Age 24 and under	2496	71.19	-0.33	-0.60	2415	70.61	-0.59	-1.24
			(0.51)	(1.03)			(0.56)	(1.17)
Age 25 - 34	3171	71.16	0.39	0.78	2868	70.28	0.59	1.44
			(0.40)	(0.92)			(0.46)	(1.07)
Age 35 - 44	1946	69.75	-0.03	-0.07	1495	67.92	-0.57	-1.19
			(0.47)	(1.18)			(0.61)	(1.48)
Age 45 and older	662	70.86	0.91	2.14	491	69.10	1.45	3.56
			(0.77)	(2.07)			(1.17)	(2.81)
Any dependent children	7443	70.61	0.20	0.46	6495	69.62	0.12	0.30
			(0.26)	(0.59)			(0.31)	(0.70)
No dependent children	768	71.91	-0.54	-1.33	709	70.74	-0.58	-1.23
			(0.83)	(2.02)			(0.97)	(2.35)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.4 *(Continued)*
Impacts by Subgroup on Neighborhood Percent Minority

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Not on TANF	1512	72.83	-0.27	-0.83	1445	72.10	0.16	-0.27
			(0.63)	(1.55)			(0.70)	(1.78)
TANF expires within 6 months	990	75.42	0.02	-0.13	939	75.11	-0.02	0.63
			(0.67)	(1.55)			(0.83)	(2.02)
TANF expires in 6 - 12 months	535	74.21	-1.05	-2.37	484	73.43	-1.05	-2.42
			(1.10)	(2.42)			(1.25)	(2.81)
TANF expires in 12 - 18 months	373	72.34	-0.02	-0.15	348	71.73	-0.13	-0.59
			(1.24)	(2.41)			(1.34)	(2.70)
TANF expires in > 18 months	679	67.21	0.78	1.17	632	66.12	-0.52	-1.12
			(0.96)	(2.17)			(1.10)	(2.54)
On TANF at baseline	6417	70.47	0.11	0.28	5482	70.36	-0.05	-0.01
			(0.28)	(0.61)			(0.34)	(0.73)
Not on TANF at baseline	1512	72.83	-0.27	-0.83	1445	72.10	0.16	-0.27
			(0.63)	(1.55)			(0.70)	(1.78)
Desires to move for employment reasons	1181	68.81	-0.20	-0.37	1068	68.36	-0.61	-1.14
			(0.70)	(1.47)			(0.81)	(1.70)
Does not desire to move for employment reasons	7046	71.16	0.16	0.37	6153	70.08	0.19	0.46
			(0.27)	(0.61)			(0.32)	(0.73)
Employed (reservation wage not asked)	3652	70.88	0.26	0.60	2942	68.99	0.20	0.44
			(0.37)	(0.85)			(0.46)	(1.02)
Reservation wage is 3 - 5.99	252	74.01	-1.34	-3.57	242	74.18	-0.53	-2.35
			(2.01)	(4.14)			(2.44)	(4.72)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.4 *(Continued)*
Impacts by Subgroup on Neighborhood Percent Minority

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Reservation wage is 6 - 8.99	2200	72.40	-0.11		-0.23		2076	72.22	-0.28		-0.52	
			(0.52)		(1.07)				(0.58)		(1.24)	
Reservation wage is 9 - 12.99	1047	70.83	-0.42		-1.19		896	69.54	-1.22		-1.98	
			(0.77)		(1.82)				(0.90)		(2.27)	
Reservation wage is 13 - 15.99	291	73.57	0.62		1.57		221	73.67	1.78		6.14	
			(1.53)		(4.53)				(2.19)		(5.97)	
Rents or owns apartment or house	4772	66.68	0.53		1.15		3924	64.82	0.50		1.09	
			(0.33)		(0.73)				(0.39)		(0.84)	
Lives with friends or relatives	2116	73.54	0.19		0.54		2017	72.75	-0.40		-0.73	
			(0.51)		(1.12)				(0.60)		(1.38)	
Resides in public or other assisted housing	1080	86.17	-1.23	**	-3.37	**	1037	85.39	-0.37		-1.24	
			(0.67)		(1.64)				(0.78)		(2.06)	
Homeless shelter, transitional housing	185	56.73	0.17		1.45		173	55.85	-1.31		-1.10	
			(2.18)		(5.59)				(2.59)		(6.37)	
Enrolled in a job training program	1062	69.80	0.68		1.32		969	68.67	0.60		1.12	
			(0.68)		(1.49)				(0.81)		(1.78)	
Enrolled in but has not yet started a job training program	575	73.26	0.17		0.63		546	73.49	0.36		0.17	
			(1.08)		(2.26)				(1.19)		(2.51)	
Not in a job training program	6542	70.56	0.10		0.24		5671	69.43	-0.03		0.09	
			(0.28)		(0.64)				(0.34)		(0.77)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.4 *(Continued)*
Impacts by Subgroup on Neighborhood Percent Minority

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3256	68.12	0.61	1.45	2711	66.95	0.66	1.51
			(0.40)	(0.92)			(0.49)	(1.10)
GED (but no high school diploma)	1402	64.50	-0.18	-0.38	1331	63.56	-0.05	-0.11
			(0.62)	(1.28)			(0.71)	(1.54)
Neither a HS diploma nor GED	2953	75.97	0.13	0.37	2659	74.83	-0.13	-0.16
			(0.42)	(0.96)			(0.48)	(1.10)
Age of youngest person in household is less than 6 years	5324	71.59	0.00	0.03	4920	70.90	-0.29	-0.51
			(0.33)	(0.71)			(0.37)	(0.83)
Age of youngest person in household is 6 - 17 years	2643	70.04	0.26	0.58	2085	68.34	0.32	0.76
			(0.41)	(1.02)			(0.53)	(1.25)
Age of youngest person in household is 18 years or more	380	68.44	-0.55	-1.20	334	67.08	-0.04	-0.50
			(1.08)	(2.40)			(1.22)	(2.88)
Enrolled in school	1369	67.09	0.47	1.32	1194	65.70	0.95	2.06
			(0.60)	(1.46)			(0.71)	(1.65)
Not enrolled in school	6498	71.24	0.15	0.31	5721	70.29	-0.09	-0.07
			(0.28)	(0.62)			(0.34)	(0.74)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.5
Impacts by Subgroup on Neighborhood Adult Employment Rate

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
White, non-Hispanic	1440	89.46	-0.17		-0.50	1139	88.91	-0.02		0.02
			(0.20)		(0.45)			(0.26)		(0.55)
Black, non-Hispanic	2862	87.39	0.46	***	1.07 ***	2584	87.42	0.55	***	1.32 ***
			(0.16)		(0.37)			(0.19)		(0.43)
Hispanic	1786	85.01	-0.07		-0.20	1603	84.64	-0.02		-0.03
			(0.22)		(0.51)			(0.25)		(0.56)
Working at baseline	3652	87.54	0.09		0.21	2942	87.21	0.11		0.29
			(0.13)		(0.30)			(0.16)		(0.36)
Not working at baseline	4285	87.17	0.13		0.26	3995	86.93	0.28	**	0.71 **
			(0.14)		(0.30)			(0.15)		(0.33)
Ever worked at baseline	6999	87.50	0.10		0.21	6106	87.25	0.16		0.41
			(0.10)		(0.23)			(0.12)		(0.26)
Never worked at baseline	1192	86.37	0.47	*	0.97 *	1080	86.00	0.56	**	1.32 **
			(0.27)		(0.58)			(0.31)		(0.67)
Age 24 and under	2496	87.15	0.69	***	1.41 ***	2415	87.01	0.76	***	1.70 ***
			(0.18)		(0.37)			(0.20)		(0.42)
Age 25 - 34	3171	87.36	-0.11		-0.29	2868	87.25	-0.06		-0.12
			(0.16)		(0.36)			(0.17)		(0.40)
Age 35 - 44	1946	87.19	0.12		0.33	1495	86.62	0.27		0.61
			(0.17)		(0.44)			(0.22)		(0.53)
Age 45 and older	662	88.21	-0.28		-0.62	491	87.47	-0.29		-0.60
			(0.31)		(0.81)			(0.42)		(1.07)
Any dependent children	7443	87.36	0.10		0.20	6495	87.08	0.17	*	0.45 *
			(0.10)		(0.22)			(0.11)		(0.25)
No dependent children	768	87.08	0.68	**	1.71 **	709	86.90	0.81	**	2.17 **
			(0.30)		(0.73)			(0.34)		(0.87)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.5 *(Continued)*
Impacts by Subgroup on Neighborhood Adult Employment Rate

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*							
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Not on TANF	1512	88.68	0.26		0.61		1445	88.57	0.28		0.75	
			(0.21)		(0.52)				(0.23)		(0.59)	
TANF expires within 6 months	990	87.73	0.40		0.91		939	87.64	0.58	**	1.48	**
			(0.27)		(0.62)				(0.30)		(0.74)	
TANF expires in 6 - 12 months	535	87.00	0.28		0.81		484	86.58	0.45		0.99	
			(0.40)		(0.87)				(0.47)		(1.03)	
TANF expires in 12 - 18 months	373	86.09	0.46		0.91		348	85.61	0.85		1.76	
			(0.59)		(1.15)				(0.63)		(1.27)	
TANF expires in > 18 months	679	87.09	-0.07		-0.06		632	86.99	0.19		0.57	
			(0.35)		(0.81)				(0.38)		(0.89)	
On TANF at baseline	6417	86.97	0.15		0.33		5482	87.00	0.25	**	0.62	**
			(0.11)		(0.24)				(0.13)		(0.28)	
Not on TANF at baseline	1512	88.68	0.26		0.61		1445	88.57	0.28		0.75	
			(0.21)		(0.52)				(0.23)		(0.59)	
Desires to move for employment reasons	1181	87.84	0.10		0.23		1068	87.66	0.16		0.57	
			(0.25)		(0.53)				(0.28)		(0.60)	
Does not desire to move for employment reasons	7046	87.25	0.15		0.34		6153	86.95	0.24	**	0.60	**
			(0.10)		(0.23)				(0.12)		(0.27)	
Employed (reservation wage not asked)	3652	87.54	0.09		0.21		2942	87.21	0.11		0.29	
			(0.13)		(0.30)				(0.16)		(0.36)	
Reservation wage is 3 - 5.99	252	85.84	1.00		2.14		242	85.48	0.81		1.93	
			(0.69)		(1.32)				(0.76)		(1.54)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.5 *(Continued)*
Impacts by Subgroup on Neighborhood Adult Employment Rate

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Reservation wage is 6 - 8.99	2200	86.95	0.19	0.44	2076	86.91	0.18	0.45
			(0.19)	(0.41)			(0.21)	(0.45)
Reservation wage is 9 - 12.99	1047	88.36	0.24	0.40	896	88.13	0.57 *	1.40 *
			(0.26)	(0.62)			(0.33)	(0.78)
Reservation wage is 13 - 15.99	291	87.66	0.66	2.25	221	87.53	0.45	1.30
			(0.48)	(1.61)			(0.71)	(1.94)
Rents or owns apartment or house	4772	87.29	-0.05	-0.12	3924	86.81	-0.08	-0.13
			(0.12)	(0.27)			(0.15)	(0.31)
Lives with friends or relatives	2116	88.18	0.15	0.30	2017	88.06	0.43 **	1.09 **
			(0.17)	(0.37)			(0.19)	(0.44)
Resides in public or other assisted housing	1080	85.85	0.68 **	1.74 **	1037	86.03	0.60 **	1.70 **
			(0.29)	(0.71)			(0.32)	(0.83)
Homeless shelter, transitional housing	185	87.64	0.68	-0.60	173	87.41	1.35	2.01
			(0.94)	(2.58)			(1.03)	(2.68)
Enrolled in a job training program	1062	86.64	0.06	0.12	969	86.60	0.23	0.56
			(0.26)	(0.58)			(0.30)	(0.67)
Enrolled, but has not yet started, a job training program	575	86.57	0.27	0.47	546	86.32	0.50	1.04
			(0.43)	(0.89)			(0.48)	(1.00)
Not in a job training program	6542	67.49	0.14	0.32	5671	87.22	0.19	0.52
			(0.10)	(0.24)			(0.12)	(0.27)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.5 *(Continued)*
Impacts by Subgroup on Neighborhood Adult Employment Rate

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
High school diploma	3256	88.22	-0.07		-0.19		2711	87.97	-0.02		0.01	
			(0.14)		(0.32)				(0.17)		(0.38)	
GED (but no high school diploma)	1402	87.61	0.43	*	0.84	*	1331	87.45	0.68	***	1.45	***
			(0.22)		(0.45)				(0.25)		(0.52)	
Neither a HS diploma nor GED	2953	86.17	0.20		0.47		2659	85.98	0.17		0.51	
			(0.17)		(0.39)				(0.19)		(0.44)	
Age of youngest person in household is less than 6 years	5324	87.14	0.26	**	0.54	**	4920	86.97	0.33	***	0.80	***
			(0.12)		(0.26)				(0.13)		(0.30)	
Age of youngest person in household is 6 - 17 years	2643	87.68	-0.20		-0.47		2085	87.21	-0.13		-0.25	
			(0.15)		(0.38)				(0.19)		(0.47)	
Age of youngest person in household is 18 years or more	380	87.46	1.05	*	2.23	*	334	87.38	0.99	*	2.55	*
			(0.51)		(1.15)				(0.60)		(1.38)	
Enrolled in school	1369	87.54	-0.19		-0.47		1194	87.22	-0.15		-0.33	
			(0.23)		(0.56)				(0.27)		(0.64)	
Not enrolled in school	6498	87.28	0.18	*	0.40	*	5721	87.03	0.27	**	0.65	**
			(0.11)		(0.23)				(0.12)		(0.27)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.6
Impacts by Subgroup on Neighborhood Percentage of Adults with No High School Education

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
White, non-Hispanic	1440	10.97	0.01		0.13	1139	9.32	-0.20		-0.41
			(0.27)		(0.62)			(0.33)		(0.69)
Black, non-Hispanic	2862	14.32	0.07		0.14	2584	13.40	-0.07		-0.17
			(0.24)		(0.53)			(0.27)		(0.63)
Hispanic	1786	26.45	-0.40		-0.86	1603	26.19	-0.65		-1.44
			(0.42)		(0.96)			(0.47)		(1.04)
Working at baseline	3652	16.69	0.18		0.31	2942	15.64	-0.06		-0.18
			(0.22)		(0.50)			(0.26)		(0.57)
Not working at baseline	4285	17.05	0.12		0.33	3995	16.67	-0.02		-0.08
			(0.22)		(0.49)			(0.25)		(0.55)
Ever worked at baseline	6999	16.24	0.14		0.31	6106	15.51	-0.06		-0.16
			(0.16)		(0.36)			(0.18)		(0.42)
Never worked at baseline	1192	19.88	0.05		0.13	1080	19.54	0.02		-0.01
			(0.48)		(1.03)			(0.54)		(1.14)
Age 24 and under	2496	15.01	-0.41		-0.82	2415	14.76	-0.76	**	-1.62 **
			(0.29)		(0.58)			(0.31)		(0.65)
Age 25 – 34	3171	16.31	0.60	**	1.29 **	2868	15.76	0.52	*	1.18 *
			(0.25)		(0.57)			(0.28)		(0.65)
Age 35 – 44	1946	18.70	-0.27		-0.57	1495	18.07	-0.61	*	-1.44 *
			(0.29)		(0.75)			(0.37)		(0.88)
Age 45 and older	662	19.01	0.44		0.95	491	17.73	1.16	*	2.78 *
			(0.50)		(1.31)			(0.69)		(1.72)
Any dependent children	7443	16.74	0.20		0.45	6495	16.10	0.03		0.03
			(0.16)		(0.36)			(0.18)		(0.41)
No dependent children	768	16.89	-0.40		-1.06	709	16.05	-0.46		-1.31
			(0.49)		(1.21)			(0.55)		(1.41)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.6 *(Continued)*
Impacts by Subgroup on Neighborhood Percentage of Adults with No High School Education

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Not on TANF	1512	11.10	0.02	-0.32	1445	10.68	-0.14	-0.49
			(0.26)	(0.68)			(0.29)	(0.76)
TANF expires within 6 months	990	16.25	-0.02	-0.01	939	15.88	-0.13	-0.23
			(0.41)	(0.94)			(0.47)	(1.18)
TANF expires in 6 - 12 months	535	17.84	-0.08	-0.56	484	17.03	-0.02	-0.48
			(0.73)	(1.63)			(0.81)	(1.84)
TANF expires in 12 - 18 months	373	18.03	0.27	0.56	348	18.23	-0.39	-0.92
			(0.91)	(1.75)			(1.00)	(2.02)
TANF expires in > 18 months	679	16.09	0.31	0.52	632	15.64	-0.25	-0.61
			(0.56)	(1.30)			(0.63)	(1.47)
On TANF at baseline	6417	18.35	0.11	0.28	5482	18.33	-0.07	-0.19
			(0.18)	(0.40)			(0.21)	(0.47)
Not on TANF at baseline	1512	11.10	0.02	-0.32	1445	10.68	-0.14	-0.49
			(0.26)	(0.68)			(0.29)	(0.76)
Desires to move for employment reasons	1181	16.44	-0.38	-0.88	1068	16.23	-0.69	-1.51
			(0.43)	(0.92)			(0.48)	(1.03)
Does not desire to move for employment reasons	7046	16.80	0.20	0.47	6153	16.06	0.05	0.07
			(0.16)	(0.37)			(0.19)	(0.43)
Employed (reservation wage not asked)	3652	16.69	0.18	0.31	2942	15.64	-0.06	-0.18
			(0.22)	(0.50)			(0.26)	(0.57)
Reservation wage is 3 - 5.99	252	21.85	-1.36	-3.07	242	22.14	-1.27	-3.03
			(1.24)	(2.56)			(1.41)	(2.90)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.6 *(Continued)*
Impacts by Subgroup on Neighborhood Percentage of Adults with No High School Education

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Reservation wage is 6 - 8.99	2200	16.53	0.46	0.81	2076	16.30	0.18	0.33
			(0.32)	(0.67)			(0.35)	(0.75)
Reservation wage is 9 - 12.99	1047	15.00	-0.08	0.16	896	13.82	-0.29	-0.40
			(0.42)	(1.00)			(0.49)	(1.23)
Reservation wage is 13 - 15.99	291	15.58	-0.33	-0.98	221	14.17	0.38	1.15
			(0.79)	(2.51)			(1.06)	(2.87)
Rents or owns apartment or house	4772	17.95	0.17	0.39	3924	17.26	0.21	0.42
			(0.21)	(0.47)			(0.24)	(0.52)
Lives with friends or relatives	2116	15.00	0.00	0.06	2017	14.50	-0.40	-0.94
			(0.27)	(0.58)			(0.30)	(0.71)
Resides in public or other assisted housing	1080	15.48	0.38	0.77	1037	15.35	-0.16	-0.81
			(0.45)	(1.11)			(0.50)	(1.35)
Homeless shelter, transitional housing	185	12.35	-0.63	-1.90	173	11.69	-1.47	-3.47
			(1.03)	(2.74)			(1.18)	(3.02)
Enrolled in a job training program	1062	17.16	0.39	0.78	969	16.64	0.17	0.24
			(0.43)	(0.95)			(0.49)	(1.07)
Enrolled but has not yet started a job training program	575	17.27	0.43	1.30	546	16.78	0.59	1.30
			(0.72)	(1.51)			(0.79)	(1.67)
Not in a job training program	6542	16.62	0.02	0.04	5671	15.91	-0.19	-0.45
			(0.17)	(0.38)			(0.19)	(0.44)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.6 *(Continued)*
Impacts by Subgroup on Neighborhood Percentage of Adults with No High School Education

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
High school diploma	3256	14.79	0.24		0.66	2711	13.98	0.05		0.08
			(0.23)		(0.53)			(0.27)		(0.60)
GED (but no high school diploma)	1402	14.57	-0.41		-0.77	1331	13.97	-0.54		-1.18
			(0.36)		(0.72)			(0.39)		(0.85)
Neither a HS diploma nor GED	2953	20.18	0.30		0.59	2659	19.60	0.23		0.54
			(0.28)		(0.64)			(0.32)		(0.73)
Age of youngest person in household is less than 6 years	5324	16.42	0.13		0.34	4920	15.93	-0.03		-0.07
			(0.20)		(0.43)			(0.21)		(0.48)
Age of youngest person in household is 6 - 17 years	2643	17.85	0.07		0.00	2085	17.05	-0.06		-0.28
			(0.25)		(0.63)			(0.32)		(0.77)
Age of youngest person in household is 18 years or more	380	13.63	-0.38		-0.48	334	12.79	-0.45		-0.88
			(0.64)		(1.50)			(0.74)		(1.76)
Enrolled in school	1369	15.77	0.72	**	1.85 **	1194	15.19	0.77	*	1.76 *
			(0.38)		(0.91)			(0.43)		(1.02)
Not enrolled in school	6498	17.02	0.00		-0.01	5721	16.38	-0.18		-0.41
			(0.17)		(0.38)			(0.20)		(0.43)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.7
Impacts by Subgroup on Neighborhood Youth Idleness

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	
White, non-Hispanic	1440	6.76	-0.04	-0.03	1139	6.56	0.00	-0.03	
			(0.18)	(0.42)			(0.22)	(0.48)	
Black, non-Hispanic	2862	9.83	-0.02	-0.04	2584	10.21	-0.49	* -1.18	*
			(0.22)	(0.50)			(0.26)	(0.62)	
Hispanic	1786	9.86	0.08	0.16	1603	9.55	0.08	0.15	
			(0.19)	(0.42)			(0.21)	(0.47)	
Working at baseline	3652	8.82	-0.02	-0.07	2942	8.97	-0.13	-0.26	
			(0.15)	(0.35)			(0.20)	(0.45)	
Not working at baseline	4285	9.79	0.04	0.14	3995	9.93	-0.16	-0.39	
			(0.17)	(0.36)			(0.19)	(0.44)	
Ever worked at baseline	6999	9.27	0.00	-0.01	6106	9.45	-0.16	-0.34	
			(0.12)	(0.27)			(0.15)	(0.34)	
Never worked at baseline	1192	9.98	-0.03	0.14	1080	10.07	0.01	-0.12	
			(0.34)	(0.72)			(0.40)	(0.86)	
Age 24 and under	2496	9.70	0.26	0.54	2415	9.93	0.00	0.03	
			(0.24)	(0.48)			(0.28)	(0.59)	
Age 25 - 34	3171	9.28	-0.15	-0.33	2868	9.35	-0.16	-0.39	
			(0.18)	(0.41)			(0.21)	(0.49)	
Age 35 - 44	1946	8.85	0.08	0.32	1495	8.92	-0.07	-0.26	
			(0.18)	(0.48)			(0.24)	(0.59)	
Age 45 and older	662	10.06	-0.21	-0.74	491	10.46	0.07	0.06	
			(0.34)	(0.91)			(0.47)	(1.23)	
Any dependent children	7443	9.32	-0.01	0.00	6495	9.47	-0.14	-0.31	
			(0.12)	(0.26)			(0.14)	(0.32)	
No dependent children	768	9.81	0.48	1.08	709	10.03	0.28	0.79	
			(0.42)	(1.04)			(0.49)	(1.27)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.7 (Continued)
Impacts by Subgroup on Neighborhood Youth Idleness

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Not on TANF	1512	9.42	-0.33	-0.99	1445	9.45	-0.20	-0.25
			(0.28)	(0.65)			(0.33)	(0.90)
TANF expires within 6 months	990	10.64	-0.27	-0.55	939	10.97	-0.56	-1.44
			(0.38)	(0.90)			(0.45)	(1.14)
TANF expires in 6 - 12 months	535	9.91	-0.18	-0.18	484	10.12	-0.26	-0.66
			(0.55)	(1.19)			(0.62)	(1.41)
TANF expires in 12 - 18 months	373	10.01	-0.43	-0.71	348	9.99	-0.62	-1.27
			(0.62)	(1.20)			(0.66)	(1.32)
TANF expires in > 18 months	679	9.68	-0.18	-0.59	632	9.52	0.02	0.20
			(0.39)	(0.89)			(0.48)	(1.09)
On TANF at baseline	6417	9.40	0.06	0.14	5482	9.50	-0.14	-0.34
			(0.13)	(0.28)			(0.16)	(0.34)
Not on TANF at baseline	1512	9.42	-0.33	-0.99	1445	9.45	-0.20	-0.25
			(0.28)	(0.65)			(0.33)	(0.90)
Desires to move for employment reasons	1181	8.95	0.31	0.64	1068	9.16	-0.08	-0.13
			(0.27)	(0.57)			(0.35)	(0.73)
Does not desire to move for employment reasons	7046	9.45	-0.01	-0.01	6153	9.61	-0.11	-0.27
			(0.12)	(0.28)			(0.15)	(0.35)
Employed (reservation wage not asked	3652	8.82	-0.02	-0.07	2942	8.97	-0.13	-0.26
			(0.15)	(0.35)			(0.20)	(0.45)
Reservation wage is 3 - 5.99	252	9.59	0.29	-0.15	242	9.78	-0.43	-0.95
			(0.92)	(1.88)			(0.87)	(1.84)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.7 (Continued)
Impacts by Subgroup on Neighborhood Youth Idleness

Subgroup	*Quarter 5, All Sites* Sample Size	Control Mean	ITT Impact	TOT Impact		*Quarter 7, All Sites Except Los Angeles* Sample Size	Control Mean	ITT Impact	TOT Impact	
Reservation wage is 6 - 8.99	2200	9.62	0.09	0.24		2076	9.58	-0.02	-0.16	
			(0.24)	(0.50)				(0.27)	(0.58)	
Reservation wage is 9 - 12.99	1047	9.76	-0.07	0.00		896	10.25	-0.28	-0.69	
			(0.34)	(0.82)				(0.41)	(1.05)	
Reservation wage is 13 - 15.99	291	10.35	0.00	0.82		221	11.72	-0.13	-0.61	
			(0.78)	(2.56)				(1.45)	(3.61)	
Rents or owns apartment or house	4772	8.83	0.09	0.18		3924	8.89	0.07	0.15	
			(0.13)	(0.28)				(0.16)	(0.35)	
Lives with friends or relatives	2116	9.38	0.07	0.25		2017	9.64	-0.24	-0.57	
			(0.23)	(0.51)				(0.27)	(0.64)	
Resides in public or other assisted housing	1080	11.85	-0.41	-0.82		1037	11.85	-0.60	-1.64	
			(0.43)	(1.07)				(0.48)	(1.29)	
Homeless shelter, transitional housing	185	8.88	0.11	-1.70		173	9.15	-0.27	-1.14	
			(0.93)	(2.15)				(1.12)	(2.92)	
Enrolled in a job training program	1062	9.73	-0.49	-1.18	*	969	9.98	-0.65	-1.37	*
			(0.30)	(0.66)				(0.37)	(0.81)	
Enrolled in, but has not yet started, a job training program	575	10.15	0.38	0.91		546	10.47	-0.29	-0.48	
			(0.54)	(1.13)				(0.61)	(1.19)	
Not in a job training program	6542	9.21	0.06	0.17		5671	9.33	-0.01	-0.04	
			(0.12)	(0.28)				(0.15)	(0.36)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.7 (Continued)
Impacts by Subgroup on Neighborhood Youth Idleness

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3256	8.73	0.00	0.05	2711	9.02	-0.19	-0.30
			(0.17)	(0.39)			(0.23)	(0.52)
GED (but no high school diploma)	1402	8.62	-0.08	-0.15	1331	8.76	-0.18	-0.40
			(0.29)	(0.59)			(0.32)	(0.70)
Neither a HS diploma nor GED	2953	10.05	0.22	0.50	2659	10.08	0.09	0.14
			(0.19)	(0.44)			(0.22)	(0.51)
Age of youngest person in household is less than 6 years	5324	9.46	0.11	0.25	4920	9.62	-0.07	-0.11
			(0.15)	(0.32)			(0.18)	(0.39)
Age of youngest person in household is 6 - 17 years	2643	9.22	-0.11	-0.24	2085	9.35	-0.19	-0.56
			(0.18)	(0.44)			(0.23)	(0.56)
Age of youngest person in household is 18 years or more	380	9.40	0.06	0.19	334	9.46	-0.07	-0.05
			(0.64)	(1.48)			(0.74)	(1.75)
Enrolled in school	1369	8.98	-0.28	-0.56	1194	9.25	-0.22	-0.56
			(0.28)	(0.64)			(0.37)	(0.80)
Not enrolled in school	6498	9.31	0.03	0.09	5721	9.43	-0.07	-0.14
			(0.13)	(0.28)			(0.15)	(0.34)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.8
Impacts by Subgroup on Neighborhood Above-Twice-Poverty Rate

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	
White, non-Hispanic	1440	54.24	-0.54	-1.56		1139	54.19	-0.64	-1.18	
			(0.49)	(1.12)				(0.62)	(1.33)	
Black, non-Hispanic	2862	46.19	0.65	1.30		2584	46.26	1.23	2.72	**
			(0.44)	(0.97)				(0.49)	(1.14)	
Hispanic	1786	39.24	-0.18	-0.48		1603	38.97	-0.11	-0.23	
			(0.52)	(1.18)				(0.59)	(1.30)	
Working at baseline	3652	47.05	-0.13	-0.22		2942	46.68	0.17	0.45	
			(0.34)	(0.78)				(0.42)	(0.92)	
Not working at baseline	4285	45.10	0.07	0.01		3995	44.79	0.32	0.74	
			(0.34)	(0.75)				(0.38)	(0.86)	
Ever worked at baseline	6999	46.63	-0.04	-0.13		6106	46.31	0.21	0.49	
			(0.25)	(0.57)				(0.30)	(0.67)	
Never worked at baseline	1192	42.30	0.65	1.33		1080	41.81	0.67	1.47	
			(0.71)	(1.48)				(0.80)	(1.69)	
Age 24 and under	2496	46.08	0.90	1.74	*	2415	45.89	1.42	3.05	***
			(0.47)	(0.94)				(0.52)	(1.09)	
Age 25 - 34	3171	46.33	-0.50	-1.10		2868	46.19	-0.55	-1.29	
			(0.39)	(0.89)				(0.44)	(1.01)	
Age 35 - 44	1946	45.14	0.18	0.34		1495	44.08	0.61	1.37	
			(0.42)	(1.08)				(0.54)	(1.32)	
Age 45 and older	662	46.75	-0.78	-1.82		491	46.22	-1.07	-2.13	
			(0.72)	(1.87)				(1.02)	(2.58)	
Any dependent children	7443	46.18	0.00	-0.06		6495	45.80	0.20	0.49	
			(0.25)	(0.56)				(0.29)	(0.65)	
No dependent children	768	44.51	0.38	0.98		709	44.37	0.54	1.58	
			(0.74)	(1.82)				(0.88)	(2.16)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.8 *(Continued)*
Impacts by Subgroup on Neighborhood Above-Twice-Poverty Rate

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Not on TANF	1512	51.20	0.44	1.54	1445	51.32	0.62	1.75
			(0.57)	(1.39)			(0.63)	(1.57)
TANF expires within 6 months	990	45.26	0.72	1.62	939	45.18	0.98	2.32
			(0.67)	(1.54)			(0.79)	(1.96)
TANF expires in 6 - 12 months	535	43.91	0.63	1.72	484	43.37	0.93	2.15
			(1.05)	(2.29)			(1.17)	(2.62)
TANF expires in 12 - 18 months	373	42.48	0.74	1.51	348	41.51	1.03	2.36
			(1.27)	(2.45)			(1.37)	(2.76)
TANF expires in > 18 months	679	44.82	-0.20	-0.13	632	44.69	0.84	1.82
			(0.82)	(1.84)			(0.91)	(2.13)
On TANF at baseline	6417	44.55	0.11	0.17	5482	44.69	0.35	0.85
			(0.27)	(0.59)			(0.32)	(0.69)
Not on TANF at baseline	1512	51.20	0.44	1.54	1445	51.32	0.62	1.75
			(0.57)	(1.39)			(0.63)	(1.57)
Desires to move for employment reasons	1181	47.60	0.11	0.28	1068	47.21	0.21	0.66
			(0.36)	(1.32)			(0.71)	(1.51)
Does not desire to move for employment reasons	7046	45.73	0.05	0.06	6153	45.37	0.27	0.64
			(0.25)	(0.58)			(0.30)	(0.68)
Employed (reservation wage not asked)	3652	47.05	-0.13	-0.22	2942	46.68	0.17	0.45
			(0.34)	(0.78)			(0.42)	(0.92)
Reservation wage is 3 - 5.99	252	43.00	0.75	2.19	242	41.46	0.31	1.88
			(1.79)	(3.55)			(2.13)	(4.12)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.8 *(Continued)*
Impacts by Subgroup on Neighborhood Above-Twice-Poverty Rate

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	
Reservation wage is 6 - 8.99	2200	44.58	-0.15	-0.30		2076	44.55	0.07	0.11	
			(0.48)	(1.01)				(0.52)	(1.13)	
Reservation wage is 9 - 12.99	1047	48.34	0.57	0.84		896	47.90	1.23	2.45	
			(0.68)	(1.60)				(0.83)	(2.06)	
Reservation wage is 13 - 15.99	291	46.55	1.13	4.87		221	46.91	0.37	0.51	
			(1.31)	(4.23)				(1.87)	(5.11)	
Rents or owns apartment or house	4772	45.67	-0.35	-0.79		3924	44.93	-0.39	-0.78	
			(0.30)	(0.67)				(0.36)	(0.76)	
Lives with friends or relatives	2116	49.15	-0.22	-0.60		2017	48.87	0.45	1.02	
			(0.46)	(0.99)				(0.53)	(1.22)	
Resides in public or other assisted housing	1080	41.04	1.88	4.66	**	1037	41.82	1.63	4.45	**
			(0.74)	(1.82)				(0.81)	(2.14)	
Homeless shelter, transitional housing	185	48.88	0.82	-1.68		173	48.15	2.99	4.57	
			(2.57)	(6.61)				(2.95)	(7.76)	
Enrolled in a job training program	1062	44.90	0.00	-0.10		969	44.47	0.76	1.60	
			(0.64)	(1.40)				(0.77)	(1.68)	
Enrolled in, but has not yet started, a job training program	575	43.86	0.34	0.08		546	43.60	0.63	1.62	
			(1.04)	(2.17)				(1.17)	(2.48)	
Not in a job training program	6542	46.41	0.00	0.01		5671	46.08	0.14	0.35	
			(0.26)	(0.60)				(0.31)	(0.70)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.8 *(Continued)*
Impacts by Subgroup on Neighborhood Above-Twice-Poverty Rate

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Subgroup	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
High school diploma	3256	49.44	-0.57		-1.43 *	2711	49.05	-0.43		-0.96
			(0.36)		(0.83)			(0.44)		(0.97)
GED (but no high school diploma)	1402	47.45	0.63		1.14	1331	47.83	0.99		2.34
			(0.62)		(1.27)			(0.68)		(1.46)
Neither a HS diploma nor GED	2953	41.52	0.27		0.63	2659	41.25	0.46		1.01
			(0.40)		(0.90)			(0.46)		(1.05)
Age of youngest person in household is less than 6 years	5324	45.78	0.16		0.28	4920	45.58	0.48		1.05
			(0.30)		(0.67)			(0.34)		(0.76)
Age of youngest person in household is 6 - 17 years	2643	46.17	-0.24		-0.53	2085	45.34	-0.11		-0.15
			(0.38)		(0.96)			(0.49)		(1.17)
Age of youngest person in household is 18 years or more	380	47.48	1.10		1.85	334	47.73	0.24		1.16
			(1.24)		(2.77)			(1.44)		(3.31)
Enrolled in school	1369	47.68	-1.15	**	-3.05 **	1194	47.15	-1.06		-2.50
			(0.58)		(1.38)			(0.69)		(1.60)
Not enrolled in school	6498	45.720	0.24		0.51	5721	45.35	0.53	*	1.18 *
			(0.27)		(0.58)			(0.31)		(0.68)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.9
Impacts by Site on Neighborhood Poverty Rate

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1102	28.09	0.02		20.40		1102	28.27	0.06		46.13	
			(0.64)		(13.68)				(0.67)		(31.10)	
Augusta	708	24.35	-0.17		-0.13		708	24.67	-0.78		-1.04	
			(0.60)		(1.13)				(0.63)		(1.22)	
Fresno	2545	33.09	0.65		1.23		2545	33.09	0.58		1.15	
			(0.41)		(0.80)				(0.42)		(0.85)	
Houston	1980	27.42	-1.72	***	-4.30	***	1980	27.02	-1.84	***	-4.91	***
			(0.40)		(0.97)				(0.44)		(1.17)	
Los Angeles	1008	23.91	0.03		-7.24		---	---	---		---	
			(0.24)		(8.30)				---		---	
Spokane	1004	19.59	0.07		0.57		1004	19.51	0.16		0.34	
			(0.36)		(0.74)				(0.36)		(0.83)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.10
Impacts by Site on Neighborhood Above-Twice-Poverty Rate

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Site	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	
Atlanta	1102	49.70	-0.82	-19.53		1102	49.41	-0.66	-41.92	
			(0.75)	(15.89)				(0.78)	(36.26)	
Augusta	708	52.53	0.28	0.27		708	52.20	1.08	1.41	
			(0.84)	(1.55)				(0.88)	(1.69)	
Fresno	2545	37.00	-0.83	-1.58	*	2545	37.71	-0.70	-1.38	
		73.00	(0.48)	(0.93)				(0.48)	(0.98)	
Houston	1980		1.87	4.68	***	1980	46.44	1.93	5.02	***
		45.89	(0.49)	(1.17)				(0.55)	(1.45)	
Los Angeles	1008		-0.08	7.25		---	---	---	---	
		49.09	(0.38)	(12.13)				---	---	
Spokane	1004		-0.30	-1.22		1004	55.88	-0.39	-0.82	
		55.77	(0.54)	(1.13)				(0.54)	(1.24)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.11
Impacts by Site on Neighborhood Percent Minority

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1102	86.82	0.60		-3.41		1102	87.12	0.60		-10.36	
			(0.75)		(15.19)				(0.76)		(34.52)	
Augusta	708	63.56	0.45		0.84		708	63.85	0.21		1.01	
			(1.23)		(2.31)				(1.29)		(2.49)	
Fresno	2545	73.36	0.72		1.44		2545	73.23	0.69		1.35	
			(0.51)		(1.00)				(0.52)		(1.05)	
Houston	1980	86.18	-1.54	***	-3.87	***	1980	85.72	-1.41	**	-3.33	**
			(0.50)		(1.21)				(0.61)		(1.60)	
Los Angeles	1008	76.94	0.32		7.84		---	---	---		---	
			(0.42)		(13.80)				---		---	
Spokane	1004	14.42	0.48	*	1.07	*	1004	14.35	0.51	*	1.21	*
			(0.30)		(0.63)				(0.30)		(0.69)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.12
Impacts by Site on Neighborhood Adult Employment Rate

	Quarter 5, All Sites						*Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1102	87.05	0.06	**	-15.20	**	1102	86.92	0.14	**	-35.24	**
			(0.32)		(7.04)				(0.33)		(15.95)	
Augusta	708	89.40	0.10		0.22		708	89.35	0.18		0.28	
			(0.25)		(0.46)				(0.26)		(0.51)	
Fresno	2545	84.16	-0.30		-0.58		2545	84.17	-0.28		-0.54	
			(0.21)		(0.41)				(0.21)		(0.42)	
Houston	1980	88.88	0.79	***	2.00	***	1980	88.96	0.92	***	2.48	***
			(0.16)		(0.39)				(0.18)		(0.47)	
Los Angeles	1008	89.23	0.05		-0.18		---	---	---		---	
			(0.10)		(3.77)				---		---	
Spokane	1004	89.33	0.32		0.42		1004	89.36	0.27		0.65	
			(0.24)		(0.48)				(0.24)		(0.55)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.13
Impacts by Site on Neighborhood Percentage of Adults with No High School Education

	Quarter 5, All Sites					*Quarter 7, All Sites Except Los Angeles*				
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**
Atlanta	1102	8.74	0.63	***	3.65 ***	1102	8.75	0.54	**	6.65
			(0.24)		(5.36)			(0.24)		(12.16)
Augusta	708	9.51	-0.08		-0.16	708	9.65	-0.47		-0.65
			(0.28)		(0.52)			(0.31)		(0.58)
Fresno	2545	25.72	0.38		0.68	2545	25.76	0.21		0.43
			(0.39)		(0.76)			(0.39)		(0.80)
Houston	1980	15.88	-0.34		-0.91	1980	15.71	-0.51		-1.42
			(0.31)		(0.75)			(0.35)		(0.92)
Los Angeles	1008	21.18	0.05		-1.88	---	---	---		---
			(0.32)		(10.44)			---		---
Spokane	1004	4.21	-0.01		0.10	1004	4.20	0.00		0.01
			(0.09)		(0.19)			(0.09)		(0.21)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit D.14
Impacts by Site on Neighborhood Youth Idleness

	Quarter 5, All Sites				*Quarter 7, All Sites Except Los Angeles*			
Site	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Atlanta	1102	11.37	0.48	-4.89	1102	11.52	0.10	-11.31
			(0.36)	(7.28)			(0.37)	(16.69)
Augusta	708	7.10	-0.03	0.00	708	7.35	-0.44	-0.72
			(0.41)	(0.74)			(0.42)	(0.81)
Fresno	2545	8.91	0.10	0.16	2545	8.92	0.04	0.07
			(0.16)	(0.31)			(0.16)	(0.33)
Houston	1980	11.84	-0.35	-0.82	1980	11.94	-0.35	-1.03
			(0.33)	(0.80)			(0.39)	(1.02)
Los Angeles	1008	8.76	-0.01	-6.23	---	---	---	---
			(0.20)	(5.61)			---	---
Spokane	1004	5.66	0.20	0.41	1004	5.62	0.26	0.55
			(0.20)	(0.40)			(0.21)	(0.47)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Appendix E

Impacts on Employment and Earnings: Detailed Estimates

Exhibit E.1
Impacts by Subgroup on Number of Quarters Employed

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Age 24 and under	2605	2.708	-0.119 *	-0.233 *	2522	3.742	-0.171**	-0.347**
			(0.063)	(0.127)			(0.086)	(0.176)
Age 25 - 34	3270	2.611	-0.094 *	-0.211 *	2958	3.588	-0.142*	-0.311*
			(0.056)	(0.127)			(0.081)	(0.179)
Age 35 - 44	2015	2.428	-0.075	-0.198	1555	3.131	-0.102	-0.250
			(0.074)	(0.195)			(0.116)	(0.280)
Age 45 and older	683	1.718	0.046	0.105	510	1.885	0.070	0.177
			(0.109)	(0.295)			(0.175)	(0.449)
Any dependent children	7682	2.578	-0.086 **	-0.192 **	6713	3.515	-0.150***	-0.323***
			(0.037)	(0.082)			(0.054)	(0.115)
No dependent children	811	1.954	-0.039	-0.067	751	2.643	0.032	0.109
			(0.111)	(0.284)			(0.156)	(0.396)
Age of youngest person in household is less than 6 years	5529	2.537	-0.086 **	-0.187 **	5104	3.526	-0.148**	-0.316**
			(0.043)	(0.095)			(0.061)	(0.132)
Age of youngest person in household is 6 - 17 years	2725	2.498	-0.035	-0.081	2155	3.245	-0.044	-0.115
			(0.060)	(0.153)			(0.094)	(0.220)
Age of youngest person in household is 18 years or more	410	2.229	-0.153	-0.357	363	2.907	-0.024	-0.046
			(0.167)	(0.430)			(0.251)	(0.634)
White, non-Hispanic	1551	2.549	-0.119	-0.294	1243	3.536	-0.226*	-0.507*
			(0.086)	(0.205)			(0.134)	(0.289)
Black, non-Hispanic	2955	2.852	-0.125**	-0.257**	2669	3.867	-0.189**	-0.412**
			(0.058)	(0.129)			(0.083)	(0.183)
Hispanic	1792	2.375	0.007	0.016	1610	3.199	0.007	0.024
			(0.078)	(0.171)			(0.112)	(0.238)
Working at baseline	3794	3.524	-0.002	-0.012	3068	4.794	-0.075	-0.152
			(0.051)	(0.118)			(0.079)	(0.169)
Not working at baseline	4420	1.726	-0.149***	-0.319***	4124	2.494	-0.180***	-0.394***
			(0.048)	(0.105)			(0.067)	(0.145)
Ever worked at baseline	7253	2.734	-0.079**	-0.177**	6341	3.696	-0.133**	-0.290**
			(0.038)	(0.087)			(0.055)	(0.122)
Never worked at baseline	1220	1.328	-0.081	-0.172	1105	1.992	-0.128	-0.266
			(0.089)	(0.190)			(0.125)	(0.262)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.1 *(Continued)*
Impacts by Subgroup on Number of Quarters Employed

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Employed (reservation wage not asked)	3794	3.524	-0.002	-0.012	3068	4.794	-0.075	-0.152
			(0.051)	(0.118)			(0.079)	(0.169)
Reservation wage is 3 - 5.99	253	1.677	0.575***	1.092**	242	2.480	0.571*	1.165
			(0.221)	(0.496)			(0.330)	(0.730)
Reservation wage is 6 - 8.99	2265	2.327	-0.151**	-0.309**	2138	3.238	-0.228**	-0.481**
			(0.069)	(0.147)			(0.095)	(0.203)
Reservation wage is 9 - 12.99	1078	2.538	-0.107	-0.251	921	3.523	-0.162	-0.370
			(0.104)	(0.258)			(0.150)	(0.359)
Reservation wage is 13 - 15.99	301	2.541	-0.037	-0.109	231	3.509	-0.426	-1.168
			(0.195)	(0.706)			(0.303)	(0.940)
Enrolled in a job training program	1089	2.544	-0.046	-0.096	995	3.516	-0.084	-0.180
			(0.105)	(0.242)			(0.147)	(0.325)
Enrolled in, but has not yet started, a job training program	593	2.096	-0.398***	-0.776***	564	2.899	-0.428**	-0.829**
			(0.135)	(0.279)			(0.184)	(0.390)
Not enrolled in a job training program	6777	2.577	-0.067*	-0.151*	5885	3.492	-0.125**	-0.276**
			(0.038)	(0.087)			(0.056)	(0.123
Enrolled in school	1406	2.569	-0.052	-0.108	1228	3.666	-0.125	-0.276
			(0.088)	(0.212)			(0.128)	(0.292)
Not enrolled in school	6733	2.497	-0.091**	-0.199**	5939	3.366	-0.129**	-0.273**
			(0.039)	(0.086)			(0.056)	(0.121)
High school diploma	3382	2.899	-0.011	-0.018	2828	4.008	-0.072	-0.146
			(0.056)	(0.128)			(0.083)	(0.180)
GED (but no high school diploma)	1475	2.667	-0.126	-0.290	1404	3.628	-0.165	-0.333
			(0.087)	(0.188)			(0.121)	(0.261)
Neither a HS diploma nor GED	3017	2.140	-0.131**	-0.287**	2713	2.846	-0.166**	-0.369**
			(0.057)	(0.128)			(0.081)	(0.180)
On TANF at baseline	6574	2.311	-0.064	-0.140	5621	3.110	-0.124**	-0.265**
			(0.040)	(0.088)			(0.059)	(0.123)
Not on TANF at baseline	1612	3.147	-0.101	-0.255	1541	4.289	-0.092	-0.161
			(0.076)	(0.189)			(0.107)	(0.264)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.1 *(Continued)*
Impacts by Subgroup on Number of Quarters Employed

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Not on TANF	1612	3.147	-0.101	-0.255	1541	4.289	-0.092	-0.161
			(0.076)	(0.189)			(0.107)	(0.264)
TANF expires within 6 months	1016	2.445	-0.132	-0.306	965	3.309	-0.121	-0.319
			(0.105)	(0.251)			(0.143)	(0.351)
TANF expires in 6 - 12 months	542	2.357	0.082	0.142	491	3.284	0.026	0.050
			(0.142)	(0.322)			(0.200)	(0.444)
TANF expires in 12 - 18 months	378	2.125	-0.048	-0.077	353	3.052	-0.180	-0.346
			(0.168)	(0.351)			(0.242)	(0.499)
TANF expires in > 18 months	705	2.150	-0.240*	-0.547*	658	3.034	-0.404**	-0.922**
			(0.125)	(0.300)			(0.175)	(0.411)
Desires to move for employment reasons	1237	2.739	-0.161*	-0.347*	1121	3.775	-0.267**	-0.535*
			(0.091)	(0.200)			(0.129)	(0.277)
Does not desire to move for employment reasons	7272	2.469	-0.068*	-0.151*	6360	3.350	-0.109**	-0.241**
			(0.038)	(0.086)			(0.055)	(0.120)
Rents or owns apartment or house	4932	2.506	-0.002	-0.007	4068	3.412	-0.068	-0.141
			(0.045)	(0.102)			(0.069)	(0.144)
Lives with friends or relatives	2203	2.556	-0.230***	-0.495***	2100	3.429	-0.269***	-0.576***
			(0.070)	(0.154)			(0.096)	(0.214)
Resides in public or other assisted housing	1091	2.776	-0.198**	-0.482**	1046	3.793	-0.212	-0.557*
			(0.096)	(0.246)			(0.131)	(0.338)
Homeless shelter, transitional housing	207	1.784	0.039	0.249	195	2.485	0.107	0.361
			(0.226)	(0.603)			(0.305)	(0.806)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.2
Impacts by Subgroup on Total Earnings

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Age 24 and under	2605	5939	-300	-612	2522	8448	-492	-993
			(221)	(461)			(321)	(670)
Age 25 – 34	3270	7011	-440**	-1015**	2958	9759	-760**	-1718**
			(219)	(501)			(325)	(731)
Age 35 – 44	2015	6606	-406	-1123	1555	8545	-554	-1329
			(279)	(761)			(433)	(1076)
Age 45 and older	683	4848	-226	-592	510	5143	366	797
			(398)	(1080)			(675)	(1721)
Any dependent children	7682	6652	-404***	-927***	6713	9125	-679***	-1468***
			(141)	(318)			(213)	(459)
No dependent children	811	4173	89	198	751	5637	387	931
			(354)	(950)			(503)	(1333)
Age of youngest person in household is less than 6 years	5529	6241	-286*	-649*	5104	8808	-532**	-1151**
			(165)	(368)			(241)	(529)
Age of youngest person in household is 6 - 17 years	2725	6820	-379*	-957*	2155	8889	-603	-1421*
			(230)	(577)			(367)	(848)
Age of youngest person in household is 18 years or more	410	5277	-1285**	-3098**	363	6676	-293	-592
			(533)	(1518)			(808)	(2250)
White, non-Hispanic	1551	6607	-396	-987	1243	9199	-624	-1419
			(324)	(786)			(521)	(1127)
Black, non-Hispanic	2955	7021	-211	-461	2669	9564	-545	-1209
			(238)	(527)			(346)	(762)
Hispanic	1792	6060	-272	-624	1610	8113	-235	-496
			(262)	(576)			(390)	(830)
Working at baseline	3794	10234	-397*	-957*	3068	13982	-713**	-1527*
			(230)	(531)			(362)	(784)
Not working at baseline	4420	3400	-303*	-677**	4124	5214	-469**	-1032**
			(155)	(341)			(226)	(495)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.2 *(Continued)*
Impacts by Subgroup on Total Earnings

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Ever worked at baseline	7253	7128	-378**	-881**	6341	9669	-573**	-1272**
			(150)	(344)			(225)	(497)
Never worked at baseline	1220	2428	-48	-153	1105	3929	-373	-761
			(249)	(531)			(378)	(751)
Employed (reservation wage not asked)	3794	10234	-397*	-957*	3068	13982	-713**	-1527*
			(230)	(531)			(362)	(784)
Reservation wage is 3 - 5.99	253	3292	926	1736	242	5072	554	1130
			(630)	(1323)			(981)	(2056)
Reservation wage is 6 - 8.99	2265	4694	-510**	-1046**	2138	6781	-663**	-1432**
			(235)	(500)			(334)	(708)
Reservation wage is 9 - 12.99	1078	6074	-343	-787	921	8638	-402	-969
			(389)	(965)			(602)	(1435)
Reservation wage is 13 - 15.99	301	6629	-584	-2125	231	9301	-1632	-4469
			(872)	(3005)			(1403)	(3998)
Enrolled in a job training program	1089	5782	-8	-37	995	8518	-489	-1025
			(389)	(898)			(577)	(1250)
Enrolled in, but has not yet started, a job training program	593	4300	-1101***	-2103**	564	6340	-1482**	-2942**
			(404)	(872)			(588)	(1304)
Not enrolled in a job training program	6777	6752	-350**	-820**	5885	9116	-507**	-1138**
			(148)	(341)			(224)	(495)
Enrolled in school	1406	6081	80	110	1228	9024	-257	-571
			(324)	(780)			(490)**	(1119)
Not enrolled in school	6733	6431	-442***	-997***	5939	8662	-604*	-1308***
			(150)	(332)			(223)	(480)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.2 *(Continued)*
Impacts by Subgroup on Total Earnings

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3382	8303	-300	-755	2828	11526	-543	-1213
			(243)	(562)			(382)	(827)
GED (but no high school diploma)	1475	6611	-532	-1152	1404	9280	-1134**	-2316**
			(344)	(742)			(483)	(1026)
Neither a HS diploma nor GED	3017	4575	-389**	-888**	2713	6036	-446*	-1007*
			(174)	(389)			(256)**	(563)
On TANF at baseline	6574	5494	-322**	-718**	5621	7388	-564*	-1202***
			(139)	(306)			(208)	(435)
Not on TANF at baseline	1612	9227	-516	-1460	1541	12557	-578	-1396
			(385)	(974)			(555)	(1410)
Not on TANF	1612	9227	-516	-1460	1541	12557	-578	-1396
			(385)	(974)			(555)	(1410)
TANF expires within 6 months	1016	6109	-758*	-1714*	965	8329	-970*	-2349*
			(390)	(933)			(546)	(1307)
TANF expires in 6 - 12 months	542	5485	-154	-395	491	7799	-74	-160
			(464)	(1047)			(678)	(1538)
TANF expires in 12 - 18 months	378	4786	-1138**	-2113*	353	7112	-1630**	-3079*
			(544)	(1092)			(814)	(1656)
TANF expires in > 18 months	705	4323	-277	-701	658	6452	-925	-2086
			(411)	(989)			(590)**	(1379)
Desires to move for employment reasons	1237	7249	-1090**	-2378***	1121	10163	-1858*	-3780***
			(371)	(795)			(534)	(1123)
Does not desire to move for employment reasons	7272	6224	-241*	-561*	6360	8463	-341	-769
			(142)	(325)			(214)	(470)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.2 *(Continued)*
Impacts by Subgroup on Total Earnings

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Rents or owns apartment or house	4932	6762	-277	-638	4068	9154	-482*	-1008*
			(175)	(397)			(270)	(573)
Lives with friends or relatives	2203	5858	-363	-837	2100	8183	-650*	-1430*
			(261)	(587)			(378)	(850)
Resides in public or other assisted housing	1091	6780	-908***	-2240**	1046	9390	-1067**	-2742**
			(351)	(902)			(510)	(1286)
Homeless shelter, transitional housing	207	3522	409	890	195	5363	-79	-239
			(742)	(2087)			(1080)	(2887)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.3
Impacts by Site on Number of Quarters Employed

	Through Quarter 5, All Sites						*Through Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1130	3.012	-0.174	*	-1.620	**	1130	4.122	-0.147		-3.146	*
			(0.094)		(0.788)				(0.126)		(1.680)	
Augusta	759	2.953	-0.027		-0.040		759	4.092	-0.002		-0.003	
			(0.113)		(0.204)				(0.154)		(0.291)	
Fresno	2566	2.165	0.045		0.082		2566	3.003	0.030		0.064	
			(0.063)		(0.118)				(0.087)		(0.166)	
Houston	2021	2.256	-0.146	**	-0.351	**	2021	3.111	-0.201	**	-0.503	**
			(0.071)		(0.176)				(0.095)		(0.241)	
Los Angeles	1042	2.726	0.182	**	2.461	**	---	---	---		---	
			0.093		(0.982)				---		---	
Spokane	1146	2.734	-0.318	***	-0.703	***	1146	3.726	-0.394	***	(-0.913)	***
			0.100		(0.221)				(0.135)		(0.318)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit E.4
Impacts by Site on Total Earnings

	Through Quarter 5, All Sites						*Through Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1130	8271	-738	*	-4753		1130	11670	-820		-8599	
			(424)		(3091)				(601)		(6431)	
Augusta	759	7036	181		365		759	10134	-96		-167	
			(421)		(747)				(601)		(1118)	
Fresno	2566	5436	-133		-258		2566	7793	-188		-362	
			(213)		(397)				(307)		588	
Houston	2021	5114	-399		-973		2021	7295	-574		-1432	
			(261)		(650)				(368)		(931)	
Los Angeles	1042	8134	257		-2192		---	---	---		---	
			(378)		(3701)				---		---	
Spokane	1146	6752	-1097	***	-2474	***	1146	9472	-1455	***	-3364	***
			(389)		(856)				(542)		(1258)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Appendix F

Impacts on Cash Assistance and Food Stamps: Detailed Estimates

Exhibit F.1
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits (Amount Received)

	Through Quarter 5, All Sites Except Fresno				*Through Quarter 7, All Sites Except Fresno and Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Age 24 and under	1894	4280	230*	472*	1811	5785	278	559
			(124)	(253)			(171)	(354)
Age 25 – 34	2335	5218	119	256	2023	6282	190	417
			(128)	(290)			(177)	(399)
Age 35 – 44	1321	5626	260	682	861	5714	688**	1647**
			(190)	(509)			(271)	(675)
Age 45 and older	485	5015	310	809	312	5091	-102	-210
			(277)	(792)			(417)	(1164)
Any dependent children	5348	5077	224***	501***	4379	5974	372***	798***
			(85)	(191)			(118)	(254)
No dependent children	618	4386	0	6	558	5600	-202	-514
			(225)	(590)			(326)	(827)
Age of youngest person in household is less than 6 years	3862	5090	100	220	3437	6313	233*	501*
			(98)	(216)			(134)	(293)
Age of youngest person in household is 6 - 17 years	1884	5041	257*	632*	1314	5182	299	690
			(149)	(366)			(209)	(489)
Age of youngest person in household is 18 years or more	352	3750	1022***	2440***	305	4898	700	1602
			(303)	(841)			(429)	(1180)
White, non-Hispanic	1237	6308	309	783	929	7367	239	545
			(223)	(538)			(347)	(757)
Black, non-Hispanic	2503	4135	169	363	2217	5085	280**	615**
			(104)	(233)			(139)	(309)
Hispanic	494	6054	160	362	312	6692	998**	2109**
			(296)	(707)			(440)	(1067)
Working at baseline	2621	4058	97	222	1895	4058	173	377
			(117)	(272)			(155)	(335)
Not working at baseline	3076	5690	332***	725***	2780	7032	445***	967***
			(112)	(249)			(153)	(346)

Notes:

"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.

*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.1 (Continued)
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno				*Through Quarter 7, All Sites Except Fresno and Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Ever worked at baseline	5141	4807	151*	344*	4229	5675	218*	478*
			(84)	(193)			(117)	(257)
Never worked at baseline	805	6028	378	823	690	7257	682*	1412*
			(271)	(539)			(374)	(736)
Employed (reservation wage not asked)	2621	4058	97	222	1895	4058	173	377
			(117)	(272)			(155)	(335)
Reservation wage is 3 - 5.99	112	5285	396	880	101	6767	-1156	-2129
			(872)	(2616)			(1181)	(4272)
Reservation wage is 6 - 8.99	1507	5293	263*	548*	1380	6690	399**	827*
			(149)	(316)			(201)	(431)
Reservation wage is 9 - 12.99	890	5128	390*	937*	733	5863	777***	1738***
			(203)	(512)			(268)	(657)
Reservation wage is 13 - 15.99	246	5433	67	180	176	5886	220	534
			(400)	(1570)			(570)	(1891)
Enrolled in a job training program	709	5158	434*	955*	615	6312	576*	1233*
			(232)	(546)			(319)	(714)
Enrolled in, but has not yet started, a job training program	354	5126	199	330	325	6331	303	590
			(325)	(712)			(403)	(926)
Not enrolled in a job training program	4871	4970	158*	366*	3979	5845	275**	601**
			(88)	(202)			(123)	(271)
Enrolled in school	947	5271	416**	1004*	769	6045	351	797
			(211)	(517)			(302)	(704)
Not enrolled in school	4700	4942	143	315	3906	5904	258**	547**
			(89)	(197)			(123)	(263)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.1 (Continued)
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno				*Through Quarter 7, All Sites Except Fresno and Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	2489	4520	1	19	1935	4934	78	184
			(124)	(288)			(173)	(375)
GED (but no high school diploma)	1136	4770	349*	767*	1065	6203	482**	982*
			(178)	(395)			(243)	(531)
Neither a HS diploma nor GED	1808	5543	251*	552*	1504	6825	292	644
			(142)	(325)			(197)	(450)
On TANF at baseline	4132	6148	229**	503**	3179	7318	340**	721**
			(103)	(228)			(148)	(314)
Not on TANF at baseline	1548	2492	190*	495*	1477	3511	328**	780*
			(114)	(286)			(162)	(401)
Not on TANF	1548	2492	190*	495*	1477	3511	328**	780*
			(114)	(286)			(162)	(401)
TANF expires within 6 months	823	4787	364*	835*	772	6363	543**	1256*
			(192)	(468)			(259)	(644)
TANF expires in 6 - 12 months	334	5902	-202	-430	283	7138	-175	-303
			(313)	(755)			(438)	(1042)
TANF expires in 12 - 18 months	194	5914	635*	1208	169	6982	1120**	2098
			(382)	(918)			(558)	(1416)
TANF expires in > 18 months	484	6658	-100	-194	437	8247	174	430
			(312)	(790)			(430)	(1080)
Desires to move for employment reasons	817	4677	304	657	701	5742	478*	937
			(205)	(474)			(285)	(647)
Does not desire to move for employment reasons	5164	5045	181**	410**	4252	5957	282**	629**
			(86)	(196)			(119)	(261)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.1 (Continued)
Impacts by Subgroup on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno				*Through Quarter 7, All Sites Except Fresno and Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Rents or owns apartment or house	3028	5520	162	378	2164	6023	288	605
			(123)	(276)			(181)	(380)
Lives with friends or relatives	1811	4389	318**	675**	1708	5700	445**	978**
			(131)	(292)			(180)	(401)
Resides in public or other assisted housing	896	4406	233	622	851	5936	223	524
			(155)	(404)			(211)	(546)
Homeless shelter, transitional housing	178	5554	-1366***	-3344**	166	7512	-2067***	-4648**
			(476)	(1512)			(668)	(1989)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.2
Impacts on Cash Assistance
(Cumulative Number of Months Received)

	All Sites			*All Sites Except Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.690	0.018**	0.051**	0.667	0.017**	0.049**
		(0.007)	(0.020)		(0.008)	(0.022)
Quarter 2	2.225	0.055***	0.137***	2.181	0.055***	0.138***
		(0.018)	(0.048)		(0.020)	(0.052)
Quarter 3	2.934	0.072***	0.153***	2.875	0.079***	0.171***
		(0.025)	(0.054)		(0.026)	(0.058)
Quarter 4	3.625	0.087***	0.199***	3.556	0.101***	0.230***
		(0.031)	(0.071)		(0.033)	(0.076)
Quarter 5	4.312	0.101***	0.230***	4.237	0.122***	0.277***
		(0.037)	(0.085)		(0.040)	(0.091)
Quarter 6	--	--	--	4.885	0.147***	0.340***
					(0.046)	(0.107)
Quarter 7	--	--	--	5.524	0.162***	0.370***
					(0.053)	(0.124)

Notes:
N = 8,664 for the regressions run on all sites. N = 7,662 for the regressions run on all sites except Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.3
Impacts on Food Stamp Benefits
(Cumulative Number of Months Received)

	All Sites Except Fresno			*All Sites Except Fresno and Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.761	0.012	0.035	0.739	0.011	0.031
		(0.008)	(0.024)		(0.009)	(0.027)
Quarter 2	2.246	0.049**	0.128**	2.177	0.052**	0.140**
		(0.024)	(0.061)		(0.027)	(0.069)
Quarter 3	2.951	0.049	0.088	2.858	0.059*	0.113
		(0.031)	(0.069)		(0.035)	(0.077)
Quarter 4	3.629	0.059	0.142	3.520	0.073*	0.174*
		(0.039)	(0.090)		(0.043)	(0.100)
Quarter 5	4.286	0.081*	0.191*	4.159	0.108**	0.257**
		(0.047)	(0.107)		(0.052)	(0.118)
Quarter 6	--	--	--	4.809	0.128**	0.285**
					(0.060)	(0.138)
Quarter 7	--	--	--	5.448	0.134**	0.303*
					(0.068)	(0.159)

Notes:
N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.4
Impacts on Cash Assistance and Food Stamp Benefits
(Cumulative Number of Months Received Either)

	All Sites Except Fresno			*All Sites Except Fresno and Los Angeles*		
	Control Mean	**ITT Impact**	**TOT Impact**	**Control Mean**	**ITT Impact**	**TOT Impact**
Quarter 1	0.787	0.005	0.014	0.765	0.003	0.009
		(0.008)	(0.023)		(0.009)	(0.026)
Quarter 2	1.528	0.025	0.067*	1.483	0.025	0.068*
		(0.015)	(0.036)		(0.017)	(0.041)
Quarter 3	2.250	0.036	0.076	2.181	0.040	0.087
		(0.023)	(0.053)		(0.026)	(0.059)
Quarter 4	2.950	0.045	0.101	2.861	0.054	0.122
		(0.030)	(0.069)		(0.034)	(0.077)
Quarter 5	3.628	0.062	0.146*	3.521	0.079*	0.188*
		(0.038)	(0.087)		(0.042)	(0.097)
Quarter 6	--	--	--	4.174	0.103**	0.236**
					(0.051)	(0.116)
Quarter 7	--	--	--	4.819	0.120**	0.273**
					(0.059)	(0.137)

Notes:
N = 6,098 for the regressions run on all sites except Fresno. N = 5,056 for the regressions run on all sites except Fresno and Los Angeles.
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.5
Impacts by Subgroup on Cash Assistance
(Amount Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Age 24 and under	2605	3095	-8	-5	2522	4112	14	24
			(89)	(179)			(135)	(269)
Age 25 - 34	3270	3554	108	253	2958	4386	223*	507*
			(91)	(205)			(132)	(290)
Age 35 - 44	2015	4399	72	224	1555	5624	200	481
			(123)	(329)			(204)	(484)
Age 45 and older	683	4167	106	287	510	5610	-323	-683
			(187)	(511)			(311)	(805)
Any dependent children	7682	3732	74	179	6713	4712	130	291
			(59)	(130)			(88)	(186)
No dependent children	811	3121	-127	-264	751	4019	-317	-782
			(167)	(421)			(257)	(646)
Age of youngest person in household is less than 6 years	5529	3643	52	121	5104	4650	158	344
			(68)	(148)			(100)	(213)
Age of youngest person in household is 6 - 17 years	2725	3924	58	178	2155	4896	-51	-85
			(102)	(255)			(169)	(375)
Age of youngest person in household is 18 years or more	410	2302	607***	1541***	363	2952	533*	1248
			(210)	(562)			(313)	(804)
White, non-Hispanic	1551	4230	110	276	1243	5171	-160	-316
			(152)	(370)			(234)	(515)
Black, non-Hispanic	2955	2476	-8	5	2669	2926	-8	17
			(73)	(162)			(104)	(228)
Hispanic	1792	5388	109	262	1610	7358	321	649
			(147)	(326)			(235)	(504)
Working at baseline	3794	3026	78	172	3068	3647	68	155
			(83)	(191)			(128)	(271)
Not working at baseline	4420	4155	77	198	4124	5288	144	328
			(77)	(167)			(114)	(244)
Ever worked at baseline	7253	3432	63	159	6341	4311	63	156
			(60)	(136)			(89)	(194)
Never worked at baseline	1220	4879	101	227	1105	6250	318	634
			(175)	(327)			(258)	(483)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = $p < .01$; ** = $p < .05$; * = $p < .10$

Exhibit F.5 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Amount Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Employed (reservation wage not asked)	3794	3026	78	172	3068	3647	68	155
			(83)	(191)			(128)	(271)
Reservation wage is 3 – 5.99	253	5339	339	662	242	7269	666	1301
			(365)	(824)			(577)	(1313)
Reservation wage is 6 – 8.99	2265	3855	154	338	2138	4951	313*	679**
			(104)	(221)			(160)	(336)
Reservation wage is 9 - 12.99	1078	3078	39	140	921	3386	112	262
			(135)	(336)			(182)	(427)
Reservation wage is 13 - 15.99	301	3542	-455	-1457	231	3826	-710	-1808
			(315)	(1131)			(576)	(1461)
Enrolled in a job training program	1089	4100	190	466	995	5163	425*	926
			(158)	(357)			(232)	(523)
Enrolled in, but has not yet started, a job training program	593	4608	-191	-332	564	6071	-218	-438
			(229)	(479)			(325)	(681)
Not enrolled in a job training program	6777	3536	76	179	5885	4442	97	218
			(61)	(139)			(93)	(200)
Enrolled in school	1406	4100	147	425	1228	5024	211	488
			(141)	(339)			(212)	(492)
Not enrolled in school	6733	3581	66	155	5939	4558	101	226
			(62)	(136)			(93)	(196)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = $p < .01$; ** = $p < .05$; * = $p < .10$

Exhibit F.5 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Amount Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3382	3106	67	180	2828	3645	154	349
			(84)	(194)			(129)	(275)
GED (but no high school diploma)	1475	3179	-68	-108	1404	4117	-34	-45
			(137)	(283)			(192)	(392)
Neither a HS diploma nor GED	3017	4634	68	169	2713	6197	99	215
			(99)	(222)			(155)	(333)
On TANF at baseline	6574	4504	102	239	5621	5796	159	346
			(68)	(149)			(106)	(219)
Not on TANF at baseline	1612	944	-34	-43	1541	1277	-12	-25
			(66)	(169)			(91)	(229)
Not on TANF	1612	944	-34	-43	1541	1277	-12	-25
			(66)	(169)			(91)	(229)
TANF expires within 6 months	1016	2339	334**	764**	965	2951	515**	1209**
			(144)	(346)			(210)	(510)
TANF expires in 6 - 12 months	542	4199	-258	-575	491	5157	-149	-333
			(202)	(460)			(278)	(628)
TANF expires in 12 - 18 months	378	4834	69	211	353	6108	130	254
			(293)	(562)			(432)	(853)
TANF expires in > 18 months	705	4242	166	414	658	5289	393	943
			(203)	(492)			(283)	(664)
Desires to move for employment reasons	1237	3283	315**	690**	1121	4266	497*	1014*
			(151)	(338)			(269)	(564)
Does not desire to move for employment reasons	7272	3729	32	84	6360	4697	36	92
			(59)	(134)			(86)	(186)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = $p < .01$; ** = $p < .05$; * = $p < .10$

Exhibit F.5 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Amount Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Rents or owns apartment or house	4932	4447	71	178	4068	5782	79	180**
			(80)	(179)			(127)	(259)
Lives with friends or relatives	2203	2670	143	333	2100	3338	283**	634
			(92)	(203)			(138)	(295)
Resides in public or other assisted housing	1091	2252	117	302	1046	2878	61	141
			(108)	(284)			(152)	380
Homeless shelter, transitional housing	207	3684	-933**	-2039*	195	4888	-1018	-2216*
			(392)	(1066)			(672)	(1702)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = $p < .01$; ** = $p < .05$; * = $p < .10$

Exhibit F.6
Impacts by Subgroup on Cash Assistance
(Number of Quarters Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Age 24 and under	2605	2.89	0.100*	0.214*	2522	3.87	0.101	0.195
			(0.060)	(0.121)			(0.084)	(0.171)
Age 25 – 34	3270	2.95	0.069	0.148	2958	3.72	0.111	0.240
			(0.054)	(0.121)			(0.078)	(0.174)
Age 35 – 44	2015	3.28	0.098	0.241	1555	4.10	0.260**	0.622**
			(0.070)	(0.183)			(0.109)	(0.260)
Age 45 and older	683	3.22	0.240**	0.593*	510	4.17	0.297	0.764
			(0.115)	(0.319)			(0.183)	(0.482)
Any dependent children	7682	3.05	0.112***	0.246***	6713	3.89	0.176***	0.373***
			(0.035)	(0.078)			(0.052)	(0.111)
No dependent children	811	2.93	-0.082	-0.181	751	3.84	-0.217	-0.500
			(0.112)	(0.288)			(0.160)	(0.406)
Age of youngest person in household is less than 6 years	5529	3.03	0.078*	0.174*	5104	3.93	0.137**	0.291**
			(0.042)	(0.091)			(0.060)	(0.128)
Age of youngest person in household is 6 - 17 years	2725	3.15	0.137**	0.330**	2155	3.91	0.183**	0.429
			(0.059)	(0.147)			(0.091)	(0.213)
Age of youngest person in household is 18 years or more	410	2.37	0.332*	0.794*	363	3.08	0.372	0.826
			(0.178)	(0.452)			(0.265)	(0.666)
White, non-Hispanic	1551	3.19	0.066	0.150	1243	3.87	0.013	0.046
			(0.083)	(0.200)			(0.131)	(0.288)
Black, non-Hispanic	2955	2.52	0.062	0.135	2669	3.16	0.096	0.206
			(0.056)	(0.125)			(0.081)	(0.179)
Hispanic	1792	3.81	0.184***	0.400***	1610	5.08	0.297***	0.621***
			(0.068)	(0.151)			(0.100)	(0.216)
Working at baseline	3794	2.53	0.104**	0.236**	3068	3.03	0.137*	0.296*
			(0.050)	(0.116)			(0.076)	(0.162)
Not working at baseline	4420	3.43	0.107**	0.234**	4124	4.45	0.178***	0.381***
			(0.045)	(0.099)			(0.065)	(0.141)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.6 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Number of Quarters Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Ever worked at baseline	7253	2.91	0.095***	0.217***	6341	3.69	0.138**	0.301**
			(0.037)	(0.083)			(0.054)	(0.118)
Never worked at baseline	1220	3.67	0.097	0.196	1105	4.85	0.149	0.313
			(0.088)	(0.176)			(0.124)	(0.248)
Employed (reservation wage not asked)	3794	2.53	0.104**	0.236**	3068	3.03	0.137*	0.296*
			(0.050)	(0.116)			(0.076)	(0.162)
Reservation wage is 3 – 5.99	253	3.70	0.194	0.382	242	5.05	0.109	0.249
			(0.170)	(0.376)			(0.256)	(0.576)
Reservation wage is 6 - 8.99	2265	3.27	0.174***	0.363***	2138	4.29	0.256***	0.535***
			(0.063)	(0.133)			(0.090)	(0.191)
Reservation wage is 9 - 12.99	1078	2.94	0.058	0.151	921	3.62	0.087	0.170
			(0.095)	(0.238)			(0.139)	(0.335)
Reservation wage is 13 - 15.99	301	3.20	-0.089	-0.327	231	3.80	0.021	0.060
			(0.186)	(0.655)			(0.300)	(0.869)
Enrolled in a job training program	1089	3.36	0.137	0.304	995	4.30	0.182	0.397*
			(0.090)	(0.203)			(0.132)	(0.286)
Enrolled in, but has not yet started, a job training program	593	3.39	0.182*	0.360	564	4.51	0.310**	0.600**
			(0.110)	(0.234)			(0.155)	(0.328)
Not enrolled in a job training program	6777	2.96	0.095**	0.211**	5885	3.76	0.144**	0.311
			(0.038)	(0.086)			(0.056)	(0.123)
Enrolled in school	1406	3.22	0.144*	0.340*	1228	4.07	0.101	0.219**
			(0.081)	(0.192)			(0.120)	(0.269)
Not enrolled in school	6733	3.00	0.085**	0.185**	5939	3.84	0.141**	0.299
			(0.038)	(0.083)			(0.055)	(0.118)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.6 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Number of Quarters Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
High school diploma	3382	2.72	0.072	0.156	2828	3.31	0.077	0.174*
			(0.055)	(0.126)			(0.082)	(0.177)
GED (but no high school diploma)	1475	2.79	0.124	0.272	1404	3.62	0.221*	0.453*
			(0.083)	(0.180)			(0.118)	(0.254)
Neither a HS diploma nor GED	3017	3.52	0.082	0.186	2713	4.66	0.141*	0.298**
			(0.052)	(0.116)			(0.076)	(0.168)
On TANF at baseline	6574	3.62	0.118***	0.257***	5621	4.69	0.164***	0.348***
			(0.038)	(0.082)			(0.057)	(0.119)
Not on TANF at baseline	1612	1.14	0.049	0.148	1541	1.56	0.126	0.271
			(0.075)	(0.185)			(0.101)	(0.252)
Not on TANF	1612	1.14	0.049	0.148	1541	1.56	0.126	0.271
			(0.075)	(0.185)			(0.101)	(0.252)
TANF expires within 6 months	1016	2.95	0.222**	0.489**	965	3.82	0.365**	0.850**
			(0.102)	(0.244)			(0.142)	(0.343)
TANF expires in 6 - 12 months	542	3.71	-0.058	-0.129	491	4.69	-0.089	-0.202
			(0.119)	(0.272)			(0.178)	(0.401)
TANF expires in 12 - 18 months	378	3.72	0.240	0.472	353	4.78	0.248	0.482
			(0.153)	(0.308)			(0.233)	(0.459)
TANF expires in > 18 months	705	3.65	0.112	0.242	658	4.68	0.208	0.490
			(0.112)	(0.278)			(0.165)	(0.398)
Desires to move for employment reasons	1237	2.98	0.196**	0.410**	1121	3.84	0.318**	0.648**
			(0.089)	(0.194)			(0.132)	(0.277)
Does not desire to move for employment reasons	7272	3.05	0.090**	0.203**	6360	3.89	0.124**	0.272**
			(0.036)	(0.082)			(0.053)	(0.116)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.6 *(Continued)*
Impacts by Subgroup on Cash Assistance
(Number of Quarters Received)

	Through Quarter 5, All Sites				*Through Quarter 7, All Sites Except Los Angeles*			
	Sample Size	**Control Mean**	**ITT Impact**	**TOT Impact**	**Sample Size**	**Control Mean**	**ITT Impact**	**TOT Impact**
Rents or owns apartment or house	4932	3.26	0.082*	0.181*	4068	4.16	0.118*	0.249**
			(0.043)	(0.095)			(0.065)	(0.135)
Lives with friends or relatives	2203	2.75	0.160**	0.356**	2100	3.58	0.242**	0.530
			(0.069)	(0.153)			(0.096)	(0.216)
Resides in public or other assisted housing	1091	2.63	0.083	0.219	1046	3.47	0.086	0.202*
			(0.091)	(0.236)			(0.129)	(0.332)
Homeless shelter, transitional housing	207	3.09	-0.429**	-1.021*	195	4.05	-0.696**	-1.557
			(0.211)	(0.582)			(0.323)	(0.823)

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.7
Impacts by Site on Cash Assistance
(Amount Received)

	Through Quarter 5, All Sites						*Through Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1130	721	26		103		1130	958	69		258	
			(62)		(379)				(83)		(736)	
Augusta	759	824	42		72		759	1091	80		135	
			(75)		(138)				(99)		(191)	
Fresno	2566	6866	12		52		2566	9398	90		171	
			(135)		(245)				(206)		(385)	
Houston	2021	1509	127	***	308	***	2021	1974	176	***	439	***
			(43)		(108)				(59)		(151)	
Los Angeles	1042	5291	-17		-209		--	--	--		--	
			(176)		(1694)				--		--	
Spokane	1146	3471	247		602		1146	4503	236		588	
			(170)		(386)				(225)		(545)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.8
Impacts by Site on Cash Assistance
(Number of Quarters Received)

	Through Quarter 5, All Sites						*Through Quarter 7, All Sites Except Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1130	1.11	0.065		0.090		1130	1.48	0.108		0.166	
			(0.086)		(0.547)				(0.113)		(1.076)	
Augusta	759	1.35	0.069		0.108		759	1.80	0.114		0.205	
			(0.109)		(0.203)				(0.145)		(0.284)	
Fresno	2566	4.09	0.131	**	0.240	**	2566	5.51	0.184	**	0.352	**
			(0.053)		(0.097)				(0.076)		(0.144)	
Houston	2021	3.11	0.084		0.207		2021	4.12	0.149		0.359	
			(0.073)		(0.180)				(0.101)		(0.255)	
Los Angeles	1042	3.90	0.001		-0.024			--	--		--	
			(0.093)		(0.765)				--		--	
Spokane	1146	2.73	0.129		0.308		1146	3.54	(0.117)		0.313	
			(0.102)		(0.227)				0.137		(0.327)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

Exhibit F.9
Impact by Site on Total Cash Assistance and Food Stamp Benefits
(Amount Received)

	Through Quarter 5, All Sites Except Fresno						*Through Quarter 7, All Sites Except Fresno and Los Angeles*					
Site	**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**		**Sample Size**	**Control Mean**	**ITT Impact**		**TOT Impact**	
Atlanta	1130	2336	161		238		1130	3193	309	*	365	
			(121)		(766				(168)		(1504)	
Augusta	759	3089	12		11		759	4300	-18		-31	
			(153)		(291				(209)		(418)	
Fresno	--	--	--		--			--	--		--	
			--		--				--		--	
Houston	2021	5010	355	***	872	***	2021	6866	473	***	1179	***
			(103)		(255				(145)		(368)	
Los Angeles	1042	7972	-174		-264		--	--	--		--	
			(218)		(2081)				--		--	
Spokane	1146	6047	346		812		1146	8054	305		737	
			(240)		(544)				(323)		(776)	

Notes:
"ITT" stands for "Intent-to-Treat". TOT stands for "Treatment-on-Treated". Standard errors are in parentheses.
*** = p < .01; ** = p < .05; * = p< .10

U.S. Department of Housing and Urban Development
HUD USER
P.O. Box 23268
Washington, DC 20026-3268

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