

Expanding Capacity and Speeding Production in the BASIC SYSTEMS REPAIR PROGRAM

Jeffrey Allegretti ■ Court Daspit ■ Tony Neri

April, 2005

Contents

| | |
|------------------------------|----|
| Introduction | 1 |
| Summary | 3 |
| Study Procedure | 6 |
| Responding to the Need | 7 |
| Program Overview | 8 |
| Analysis of Process | 10 |
| Recommendations | 16 |

This report was commissioned by Women’s Community Revitalization Project (WCRP), Association of Community Organizations for Reform Now (ACORN), and United Communities Southeast Philadelphia (UCSEP) as part of a larger research project generously supported by the William Penn Foundation.

Introduction

Why BSRP Matters

Philadelphia has a large low-income population with an unusually high homeownership rate. Many neighborhoods consist largely of pre-1940 houses whose owners cannot afford to maintain them; sometimes houses like this deteriorate so badly that abandonment ensues. As the city's main defense against such decay, the Basic Systems Repair Program is a vital component of any housing-preservation strategy. At present funding levels, however, the program is completely inadequate to the need; a large and growing backlog of applicants is waiting for service. The current backlog of over 3,500 approved cases corresponds to approximately 5,000 repair jobs.¹

How BSRP Works

A distinctive feature of the program is the “blanket contract” system under which qualified contractors in various trades agree to work on a schedule of fixed prices for each type of repair. This makes it possible for jobs to be assigned directly to an available contractor without a bidding process.

There are two “tiers” of service, capped respectively at \$3,500 and \$12,500 per house. While applicants for Tier 1 self-certify their income eligibility and are enrolled by phone, if they need more than \$3,500 worth of repairs they are shifted to Tier 2. Then they must bring required documentation to apply downtown in person. About one-fourth of the cases assigned under Tier 1 are found by the contractor to need too much work for that tier, sometimes because initial inspection was deficient; the client who has waited months for work to start is then pushed to the end of a new queue.

Recommendations to Enhance the Program

Inadequate funding is now the main obstacle to meeting more of the city's home repair needs. Even with a much larger budget, however, the program as currently designed would have unacceptably long average waiting times from initial application to completed repair. This study makes a number of recommendations to increase its productivity if funding were increased. The most important recommendations would accomplish two things. First, they would speed up the process of determining that an applicant is eligible for service. Second, they would improve the way that BSRP staff then determine what repair work needs to be done, assign it to the appropriate contractor or contractors, and assure its prompt completion.

¹ This number, like many of those cited in our report, is an estimate based on the best data available from PHDC and has been checked by BSRP management. Because the characteristics of previous program clients and their houses may not exactly predict those of current ones, and because limitations of the BSRP database system make it hard to determine some historical numbers precisely, we have relied on BSRP staff to provide estimates using certain simplifying assumptions or sampling techniques where necessary.

Combine the two tiers and simplify applicant intake. If all BSRP clients' income were documented to the satisfaction of each of the program's funding sources, the distinction between tiers would be unnecessary. Since the Low Income Home Energy Assistance Program (LIHEAP) has a more stringent income standard than BSRP and the Weatherization Assistance Program (WAP) has the same standard, it should be possible to combine the two tiers and use a simple intake process where anyone already enrolled in LIHEAP or WAP is considered income-eligible. Philadelphia's WAP is managed from the same office as BSRP, but uses a simpler application process. LIHEAP enrollment would be confirmed by an electronic link to the state's LIHEAP database. In view of all three programs' contribution to housing preservation, a closer administrative linkage among BSRP, LIHEAP and WAP is also desirable in itself.

Identify all needed repairs correctly; expedite their assignment to contractors and successful completion. The database management system used by BSRP needs to be upgraded to increase staff productivity, allow data entry from the field, and facilitate management supervision. The inspectors who perform initial inspections should follow a new procedure that guides them through a careful evaluation of all building systems. With computer assistance, work orders would then be generated from the systems evaluation data. Contractors would still have to meet clear standards but would have more flexibility to determine the specific materials and quantities needed for each repair.

Report Summary

Responding to the Need

- In owner-occupied low-income housing, which makes up an unusually high proportion of Philadelphia's total housing stock, age and deferred maintenance have given rise to urgent repair needs.
- BSRP is an appropriate vehicle for performing these critical repairs.
- Current program funding is inadequate; production has declined and waits for service have increased. To address the accumulated backlog and keep pace with future need, annual production should double.
- To shrink the current backlog and keep abreast of future demand, annual production must increase by about 100 percent – to about 7,000 repairs per year.
- Changes proposed in this report will increase administrative efficiency, facilitating a doubled production rate with much shorter delays.

Program Overview

- Clients' initial contact with BSRP is by telephone.
- For Tier 1 cases (currently up to \$3,500), intake and eligibility determination is by telephone – but service, once almost immediate, now involves a wait of many months.
- For Tier 2 cases (now limited to \$12,500), a lengthy eligibility determination process precedes the wait for contractor assignment.
- With streamlined administration and assurance of stable funding, contractor capacity should not be an obstacle to meeting proposed production goals.

Analysis of Process

- There are delays from application approval to inspection, and from inspection to contractor assignment and start of work. Initial inspections are of variable quality, and sometimes notably deficient. The assigned contractor may find that a Tier 1 job has been misclassified and must be reassigned to Tier 2; because of different qualification standards for the two tiers, this causes additional delay.
- Contractors are given packets of several work orders at a time. Each job is required to start by a specified date and to be completed not more than 60 days later. The average time from inspection to start of work varies by trade; in the case of carpentry repairs, for which there are too few contractors, it is about 30 months.
- A change order must be submitted and approved to authorize any necessary work not covered in the initial work order. About five percent of cases are canceled after the work order is issued, most commonly because of excessive cost. Unless they must confer about a change order, there is little interaction between the contractor and the PHDC inspector

until final inspection. Final inspections, at least for the contractors interviewed, are a fairly routine though time-consuming process. Payment is typically approved with the understanding that any punch-list items will be addressed promptly. After approval, PHDC issues a check in about 45 days.

- The main complaints about PHDC's procurement process are that detailed applications must be submitted annually, as contracts are for one year only, and that these contracts typically are not issued until long after the start of the fiscal year they cover.

Recommendations

- Contract processing by PHDC's legal department should be expedited to reduce the lag time in issuing an approved contract or amendment for cost. Contracts should be issued with the option for two one-year renewals. Appropriate incentives should be provided if necessary to recruit contractors in trades for which repairs entail the longest wait.
- The current arrangement of two tiers, each with its own qualification process, should be replaced by a unified program structure in which all clients meet HUD standards for documenting income eligibility. The maximum grant should be increased to \$20,000.
- The Home Improvement Programs database system should be upgraded to store digital photographs, support new functions that will increase the productivity of intake and field staff, and facilitate management analysis and supervision.
- By giving intake staff immediate electronic access to records of LIHEAP enrollment and approval for WAP, as well as current BRT property ownership files, eligibility can in most cases be determined immediately over the telephone. Arrangements can also be made for intake and eligibility determination at Neighborhood Energy Centers. If program funds are exhausted before the end of the fiscal year, intake should be closed; unsuccessful applicants can be notified automatically when it reopens.
- An inspector should be sent within 48 hours of intake to confirm that needed repairs can be done under program guidelines, identify all the trades necessary to carry out those repairs, and establish the general scope of work. PHDC should assign its best-qualified inspectors to the initial inspection task. They should be good listeners and able to communicate clearly what the program will cover. Inspectors hired in the future should have work experience in the trade for which they are responsible.
- The current method of generating work orders should be revised so that inspectors focus more on thorough systems evaluation. A new computer program would use the evaluation data to assist work order preparation. When the work scope and budget are set, PHDC should automatically accrue a contingency reserve for repairs not initially identified.
- When a contractor has established a successful track record, PHDC should no longer send inspectors to perform final inspection of every job. For jobs under \$5,000, it should allow the contractor to document successful completion by providing digital images.

Such work would still be inspected on a sample basis; any contractor found to abuse the self-documentation privilege would be penalized.

- A permanent cash reserve should be created to provide “float” so that PHDC can pay contractors promptly in anticipation of reimbursement by the City.

Study Procedure

Investigative Method

This report reflects the authors' policy preferences and draws on data provided by Philadelphia Housing Development Corp., homeowner feedback compiled by WCRP, ACORN, and UCSEP, analysis of Census and other data performed for the three nonprofit agencies by the Bryn Mawr School of Social Work, and a series of interviews.

- Guy Porcella, who as Director of PHDC's Home Improvement Programs Division is responsible for the Basic Systems Repair Program, and Bill Yurkow, PHDC's fiscal officer, were interviewed at length. Throughout the study, both were extremely helpful and went out of their way to provide additional information on request.
- Six experienced BSRP contractors were interviewed following a detailed protocol: a heating contractor, an electrical contractor, two plumbing contractors and two general contractors. All have current contracts over \$200,000; all but one has worked in the program for at least ten years. An abbreviated telephone interview was performed with a seventh contractor.
- Liz Robinson, Executive Director of the Energy Coordinating Agency of Philadelphia, described the process by which Neighborhood Energy Centers under ECA's umbrella determine eligibility and perform intake for the a variety of housing-related programs including the federally funded Low-Income Home Energy Assistance Program and Weatherization Assistance Program.

Researchers' Background

The authors can make no claim to disinterested impartiality, as all have been significantly involved with the Basic Systems Repair Program over the years.

- While at PHDC, principal investigator **Jeffrey Allegretti** developed and successfully implemented the original plan for BSRP as a multi-tier, quick-response emergency repair program with telephone hotline and contractor assignment linked to the program database. As president of Pennrose Service Corp., he has instituted maintenance procedures that build on this experience.
- During his career at the City's Office of Housing and Community Development, from which he recently retired, **Court Daspit** worked on planning and policy issues related to building technology and housing repair and preservation; he collaborated on several projects with BSRP managers and staff.
- Before assuming responsibility for the Heater Hotline, a service contracted to the Energy Coordinating Agency which complements the BSRP Emergency Repair Hotline, **Tony Neri** was a licensed heating contractor who often did BSRP work.

Responding to the Need

In its 2004 analysis of the condition of Philadelphia's owner-occupied housing, based largely on data from the 1999 American Survey of Housing, the Bryn Mawr College School of Social Work showed the disturbing prevalence and severity of deterioration stemming from deferred maintenance. Philadelphia needs a comprehensive housing-preservation strategy. The Basic Systems Repair Program, which has been operated by Philadelphia Housing Development Corp. in roughly its present form for the past dozen years, can be a key component of any effort to reverse the decline of the owner-occupied housing stock

In budget year 1992-93 BSRP produced 3,997 total repairs (all numbers cited here exclude Heater Hotline repairs) at a cost of \$6.11 million. By 1995-96, as City policy evolved to increase both total program funding and the per-job spending limit, production had increased to 6,503 non-Heater Hotline repairs on a budget of \$16.3 million. Funding subsequently shrank, however, and averaged less than \$9.5 million a year from 1997-98 through 2002-03. The current (2004-05) budget is \$10.9 million, about the same as 1998-99 in absolute terms but less in purchasing power. Since the 1997-98 budget year, production has never been more than half the peak reached two years earlier. Average annual production for the past seven years is 2,703. In calendar year 2004, which saw most of the benefit from a one-time infusion of local funds in the 2003-04 budget, BSRP produced 3,652 repairs at a total cost of \$14.26 million. Though minor repairs are now managed differently and require more staff involvement than in the program's early years, this performance history suggests that the current staff and contractors could reasonably be expected to produce up to 4,000 repairs per year at the current average cost per repair of about \$3,900. At an average of less than 1.6 repairs per house, 4,000 repairs corresponds to more than 2,500 houses treated.

Housing advocates generally consider BSRP to be a relatively well-run and effective government program, although inadequate funding in recent years has led to a growing backlog and long wait times that belie its intended role as an emergency service. Long delays experienced by recent and would-be clients naturally give rise to public disappointment and confusion. The backlog of repairs sought by eligible applicants is now about twice the number performed in any recent program year. We estimate that to shrink this backlog and keep abreast of future demand, annual production must increase by about 100 percent.

The competence and dedication of program management notwithstanding, BSRP would become unwieldy if it were scaled up to double production with exactly the current service delivery model. Today's backlog is mainly a function of inadequate funding. Once funding became sufficient, however, certain current practices would still be an obstacle to prompt service. Delays are now inherent in the procedures for eligibility determination and for assignment and completion of work. Therefore, we have recommended changes – including a streamlined intake system and more effective deployment of field staff equipped with current wireless technology – which are expected to yield better results at a lower administrative cost per unit of production.

Program Overview

Organization by “Tiers”

The current design of BSRP was established in 1992 and has been maintained in broad outline ever since. The program uses a “blanket contract” system: for greater productivity and efficiency, PHDC awards annual contracts under which a number of reliable contractors in each trade agree to work according to set price schedule. Unit prices are pre-defined for all covered types of repair work. This arrangement obviates the need to bid out each job. As planned originally, the program had three levels:

Tier 1. The Emergency Repair Hotline/Heater Hotline was created to provide rapid response to plumbing, heating and electrical-system emergencies of limited scope (capped originally at \$1,600, currently at \$3,500). Under contract to PHDC, the Heater Hotline is operated in parallel to the Emergency Repair Hotline by a nonprofit agency with special expertise in repairing old furnaces and boilers. So that property ownership could be confirmed in the course of telephone intake, property records from the City’s Board of Revision of Taxes (BRT) were included in PHDC’s database; a self-declaration protocol for establishing income eligibility was negotiated with the Pennsylvania agency that funds the Hotline. Extensive new programming of the database system provided automated contract control. Intake was partially automated as well: new data-entry screens enabled non-technical staff to determine applicant eligibility, categorize the reported problem, and either reject the case or assign it to the appropriate contractor without necessarily having any technical knowledge of the building systems involved. The computer was programmed to automatically check for an ownership match and determine income eligibility based on owner-supplied data. The contractor-assignment program took into account the spending, work in progress, and number of work orders issued to contractors in each trade. PHDC clerks were trained to operate the hotline using a new telephone system and computer terminals. The average call length was 2 minutes and 30 seconds; at the end of the call a digitally-generated fax, with all pertinent information about and authorization for the repair, was transmitted to the assigned contractor (all contractors had been required to buy fax machines).

Tier 2. The second program tier, for major system replacements, was HUD-funded and required in-person application to document income eligibility to HUD’s satisfaction. The Tier 2 cap, originally \$5,000, is currently \$12,500. Work orders were issued at the job site with the homeowner, contractor and City inspector all present. Each work order had an expiration date; if the work was not completed by that date, the job could be reassigned.

Tier 3. With the approval of the Director of Housing, Tier 3 – which is no longer a component of the program – allowed more extensive repairs (up to \$25,000) in a limited number of cases to prevent homelessness or protect from potentially life-threatening conditions. The contracting process was the same as for Tier 2.

As indicated above, the current dollar ceiling for Tier 1 repairs is \$3,500. Intake is still by telephone and the Heater Hotline process is essentially unchanged. For Emergency Repair Hotline calls (other than roof repair calls), however, PHDC field staff perform a triage inspection before either assigning it to electric, plumbing or carpentry repair or diverting it to

Tier 2. The maximum for Tier 2 repairs is \$12,500 but in special circumstances PHDC's chief executive may authorize an expenditure up to \$15,000; the Director of Housing may waive even this higher limit. Tier 3 has been eliminated.

Production History, Backlog, and Service Delays

At its peak in 1995-96, the program provided 6,503 repairs at a cost of \$16.3 million. By 2000-2001, funding had declined to \$8.8 million and only 1,999 repairs were completed. The 3,652 repairs in calendar 2004 were a recent exception to the long-term trend of 2,700 repairs in an average year.

As budget constraints in recent years forced cutbacks in BSRP, the backlog of approved cases has grown steadily to over 3,500. This number – which corresponds to some 5,000 repairs – does not include all the homeowners whose applications are currently being processed in the Central Intake Unit or who are waiting for “triage inspection” (see **Analysis of Process**, below.) PHDC staff estimate that BSRP clients must wait, on average, more than twelve months from application to service. See **Analysis of Process** for a detailed illustration of how this wait breaks down.

Capacity of Staff

Under Home Improvement Programs Director Guy Porcella, BSRP has a staff of three inspection supervisors (who oversee 18 inspectors and allied staff) and three supervisors who each oversee four to six employees concerned with intake, application processing, record keeping, contract management and other administrative tasks. The recommendations in this report will substantially increase the productivity of existing staff; the higher production we propose will not require proportionate staffing increases.

Contractors' Capacity and Ability to Expand Production

PHDC has blanket contracts with 54 firms: fifteen roofers, twelve plumbers, eleven electricians, six heating contractors, four general contractors, three carpenters, and three asbestos removal contractors. Many are operating at a level well below what they have previously achieved under larger contracts. Given more funding, some could quickly increase their production (at least two of those interviewed volunteered as much). Others would add crews and increase their capacity if confident that a given level of program funding would be sustained over the long term. Contractors' ability to increase production quickly is shown by their absorption of the five-million-dollar budget increase appropriated by City Council for fiscal 2003-04.

If repair funding increases outstripped current contractors' ability to expand, a well-funded, administratively streamlined program would undoubtedly attract additional qualified contractors in fairly short order.

Analysis of Process

Intake and Inspection

All cases normally start with a call to the BSRP Hotline operator. After a client has been found eligible – based on a self-declaration of income, the check of the owner records from the Board of Revision of Taxes (BRT) database, and the determination that the client’s repair need is consistent with program guidelines – roof-only cases are assigned to Tier I roofing contractors for immediate repair. For all other cases, PHDC performs a “triage inspection.” The current wait time for triage inspection is about five weeks. If the house needs more work than possible under BSRP, the case is canceled. If essential repairs are estimated to cost less than \$3,500 the triage inspector prepares a work order for the required work under Tier 1. If repair needs are more extensive but still within Tier 2 guidelines, the case is referred to Tier 2 and the applicant is instructed to come to PHDC with various forms of eligibility documentation required by the Central Intake Unit (CIU). About 25 percent of the jobs originally assigned under Tier 1 are found by the contractor to require more work than first thought and must be redirected to Tier 2, essentially pushing them back to the end of the queue after the client has already waited many months for service.

PHDC staff say that Tier 2 intake processing ideally can be completed in one month, but takes about three months on average. Delays can and often do occur when applicants fail to submit all the required documents; anecdotal evidence from client interviews suggests that as a result, the process can take a good deal longer. Applicants who do not comply with CIU requests are ultimately dropped from the system.

After CIU approval, whole house inspection is scheduled in about one month. The PHDC inspector performs a whole-house inspection to determine all of the BSRP-eligible repairs that need to be done, and produces a line-item work order listing work items and quantities and pre-established unit costs for each. If the estimated work exceeds \$12,500 the case is canceled. Work orders under \$12,500 are issued to the appropriate trade contractor or, where the case involves carpentry and/or multiple trades, to a general contractor. Contractors note that job orders are often incomplete; unless the whole job is assigned to a general contractor, this impression may or may not be correct (individual trades only know the specific repairs for which they are responsible). When a contractor sent to replace an electrical panel finds sewage in the basement, however, there is evidently a problem with scheduling at least. One contractor showed interviewers the paperwork for a recent job that was written up for \$9,600 but, after change orders, came to \$15,000 and could be completed only with a special cost waiver. About five percent of Tier 2 jobs are canceled because of excessive cost. The majority of over-cost cancellations occur at the whole-house inspection, but the contractors interviewed also recalled a number of cases where a job was assigned and subsequently had to be canceled. Some discrepancies can be attributed to deterioration in the period between when the inspection was performed and when the job was assigned, or to hidden problems that only become apparent in the course of work, but an incomplete initial work write-up was most often cited as the reason for canceling an assigned job due to excessive cost. Contractors also reported that some inspectors’ work orders are consistently more accurate and thorough than others.

Although PHDC makes an effort to inform clients of program guidelines and the kinds of work that are and are not covered, sometimes – perhaps unavoidably – they forget or fail to grasp this information and are disappointed even when repairs are done appropriately.

Job Assignment

PHDC still follows approximately the original process for assigning jobs to contractors, but no work orders are transmitted electronically. Contractors pick up packets of work orders at PHDC, or receive them by mail. Early in the budget year, work orders for the large contractors may be bundled in packets of 12 or more. Contractors do not receive new packets until they have completed a substantial portion of the jobs on the previous one. Average wait time from whole house inspection to the start of work varies by trade, from less than a month for Tier 2 heater replacement and three months for Tier 2 structural repairs to more than a year for plumbing and two years for carpentry repairs. Discrepancies in wait time reflect PHDC's relative lack of success in attracting and retaining some types of contractors. It also reflects the priority given to heater work in winter, to accumulated plumbing problems (including sewer lateral failures that lead to shut-off water service) and to emergencies directly affecting handicapped clients. The ability to schedule carpentry and structural repairs is constrained by the fact that of the 54 authorized contractors on the current BSRP list, only seven are carpentry or general contractors. PHDC believes that carpentry-only contractors tend to be small family firms that are ill-equipped to handle the paperwork/insurance/ minority subcontracting requirements of the program. It is also possible, especially in light of the difficulty of making significant carpentry and structural repairs in an occupied house, that PHDC's fee schedule for carpentry is not competitive in the current market.

PHDC has attempted to respond to this deficiency by acting in some cases as the general contractor, issuing multiple work orders to multiple trade contractors. Contractors have noted that when PHDC serves as general contractor, the last trade contractor to whom work is assigned runs the risk that there won't actually be enough money to do the work because pending change orders for one or more previous contractors' tasks have reduced the balance available under the program ceiling. PHDC counters that in such cases, a cost waiver is invariably approved.

Execution; Change Orders

Jobs are, as always, issued with a specific deadline (the authorization-to-proceed form includes the line "Repairs should begin on or before _____ [date] and must be completed within 60 days of that date.") Because of batch assignment and the greater latitude in specified starting times, however, contractors interviewed were oblivious of deadlines. When a contractor gets a packet of jobs he is usually free to choose the order in which they will be done; PHDC occasionally asks for priority treatment of a particularly dangerous emergency. Most of the contractors interviewed start by sending the head of the firm, or a partner, to confer with the homeowner and scope out the job. Sometimes they make a point of asking what problem prompted the initial call to PHDC (though of course individual trade contractors do not know the full scope of work for jobs assigned to them when PHDC functions as the general contractor, the issue the owner was most concerned about – even if within the contractor's trade – isn't always reflected on the work order). Ideally, the work order is

found to be complete; the owner is advised about any clearing-up that may be necessary and the start of work is scheduled. Contractors estimated a cancellation rate of five to ten percent, most commonly because of unsafe/unsanitary/too-cluttered conditions or costs that would exceed the cap. PHDC staff believe that if one excludes Tier 1 roofing, one-third of which is diverted to Tier 2, less than five percent of work is returned after assignment. Limitations of the database make it impossible to determine the precise cancellation rate.

If the original write-up failed to cover some necessary work, the contractor must formally request a change order. Different contractors report different approaches to change order requests: some immediately ask the inspector for a site visit so that the issue can be quickly resolved. Others fax in the request and move on to another job; they say that without pressure from them, it may languish at PHDC for months. PHDC acknowledges that such delays sometimes happen, but indicates that on average it responds to change-order requests in two or three days. While contractors often identify the need for a change order at the outset and don't start work until it has been approved, situations requiring a change order may also be discovered only when the job is underway. A heating contractor, for example, may find a new problem only when he fills the radiators after replacing the boiler in a hot-water heating system.

Quality Control/Final Inspection

Unless they ask an inspector to come out and advise on a specific problem, contractors typically have no involvement with PHDC staff until the final inspection. The contractor always accompanies the inspector through the house for this process, which is described as being fairly routine. Those interviewed (who may be among the best and most experienced, rather than a representative sample) report that there is seldom or never a serious problem and they are able to deal promptly with any punch-list items. PHDC does not necessarily reinspect for this punch-list work, relying instead on the contractor's integrity and the homeowner's willingness to complain about anything left undone. Contractors, who occasionally find a client unreasonable and impossible to satisfy, appreciate that if necessary the inspector can authorize payment without the homeowner's signature. (WCRP, however, cites a case where payment was authorized without the knowledge of a perfectly competent and rational client.)

Payment

Contractors may bill as soon as a job is completed and approved. BSRP staff process invoices continuously; after their review, which takes one or two weeks, the finance unit pays in 30 days. Several steps have been taken to speed payment.

BSRP job management and payment processing are linked electronically. When a job is assigned, BSRP staff enter the assignment into an integrated accounting system connected to the finance unit. To prevent unauthorized assignments or budget overruns, the system includes contract, budgetary and time limits. Similarly, once a job is finalized, BSRP staff enter a code on this system to allow the immediate electronic transfer of the invoice to finance for processing.

Twice each month, finance staff invoice the City for reimbursement of all new invoices from BSRP. This reimbursement takes four to five weeks. PHDC is able to pay contractors before receiving the City reimbursement, however, because it has secured an advance from the City and identified internal funding to create a million-dollar revolving fund for this purpose.

PHDC currently advises contractors that their check will be cut 30 to 45 days after payment is approved (although when a valued contractor requests expedited payment in a crunch, his wish is sometimes granted). A random sample of ten payments to nine contractors in February, 2004, showed an average elapsed time of 45 days from receiving the invoice to issuing the check.

The contractors interviewed, who perhaps had grown used to slower payment in the past, generally did not count on payment in less than 60 days. Slow payment is deplored by many, but welcomed by some who argue that if it were faster, they would face competition for BSRP work from many less financially-secure firms. Some of the smaller contractors take advantage of a program that, for a modest interest fee, advances funds against accounts receivable.

Where Delays Occur

Limitations of the current database system prevent calculating the mean elapsed time between various steps in BSRP. The “average wait times” for various trades, cited above under Job Assignment, are managers’ rough estimates. To give a clearer sense of how much variation there is in the time a case takes from initial contact to completion, and the different stages at which progress can be delayed, for this report PHDC provided a small sample of 13 “typical” cases completed in the first three months of 2005. Only three of these were Tier 1 cases; beyond noting that the average time to completion was almost 20 months – most waiting in the queue for the job to be assigned – no meaningful conclusions can be drawn from this small number. Current Tier 1 delays are largely a function of the backlog. Key findings for the ten Tier 2 cases (ranked from quickest to slowest) are summarized in the table on the next page. Note that three were completed in considerably less than a year. One reason, not mentioned earlier, for the great variability in speed of completion is that certain cases are given special priority and “pushed” through the system. Such priority cases include, for example, houses without heat in winter and houses where a child has been diagnosed with lead poisoning but the Health Department cannot abate the lead hazards until other repairs are done.

Sample Tier 2 cases – time intervals in days

| Case | B | I | A | F | E | D | J | C | G | H | |
|------------------------------|-----|-----|-----|-----|------|-----|-----|-----|------|------|----------------|
| Trades involved* | P | AP | H | ES | EHSP | EPR | EH | EHR | AHP | P | <i>Average</i> |
| Hotline call to CIU approval | 108 | 129 | 188 | 104 | 128 | 160 | 162 | 84 | 496 | 722 | 228 |
| Apprvl to (last) assignmt | 19 | 103 | 69 | 168 | 215 | 225 | 276 | 512 | 723 | 608 | 292 |
| Longest job | 10 | 75 | 36 | 162 | 108 | 161 | 136 | 182 | 103 | 63 | 104 |
| Apprvl to completion | 29 | 133 | 105 | 330 | 323 | 311 | 412 | 669 | 757 | 671 | 374 |
| Total process | 137 | 262 | 293 | 434 | 451 | 471 | 574 | 753 | 1253 | 1393 | 602 |

* A - asbestos removal, E - electrical, H - heating, P - plumbing, R - roofing, S - structural.

Case G, which began with a hotline call in September 2001, was initially written as a Tier 1 plumbing case and was assigned to a plumber – who determined that the job would cost more than \$3500. In November 2002 it was sent back for processing as a Tier 2 application. Meanwhile, ECA responded to a Heater Hotline call and found the existing furnace beyond repair; in January 2003 it sent over a referral for heater replacement. This additional work was added to the case. The discovery of asbestos involved still another trade and caused further delay. Note that in contrast Case E – which involved *four* systems, yet was completed in one-third the time – was somewhat expedited by PHDC’s ability to assign all of the work to one of its few general contractors.

Case H, the slowest of all, started with a hotline call in April 2001 and after triage inspection was referred to Tier 2 intake that July. The application was not approved until April 2003, presumably because the client had trouble assembling all the eligibility information required by Central Intake. The whole house inspection was performed that July; the case was assigned to a plumber in December 2004 and completed two months later. PHDC notes that its “plumbing cases take a long time when they’re not prioritized.”

Procurement

Being aware of the voluminous paperwork submission required to qualify as a BSRP contractor, the interviewers noted with interest that contractors do not seem to regard the procurement process as particularly onerous; some specifically praised Guy Porcella for the simplifications he has introduced, such as eliminating the requirement for a copy of corporate bylaws. The most common complaint was about having to go through the process *de novo* every year, regardless of one’s prior track record. PHDC notes that because its funding is granted on a year-to-year basis, it cannot legally obligate itself to multi-year contracts. (PHDC *can* enter into one-year contracts with the option for two one-year renewals, but so far this arrangement has not been extended to BSRP.)

Contract Execution

Although production is reported by fiscal year (July through June), in terms of funding the BSRP program year in fact runs approximately November through October. Blank contracts are not sent to contractors for signature until the operating contract between PHDC and the

City's Office of Housing and Community Development is executed (normally in September). It takes several more months to obtain the necessary signatures and insurance certifications and pass through PHDC's lengthy internal legal/administrative review process. Most contracts are executed in November, but this year one did not take effect until March.

RECOMMENDATIONS

Program management had an opportunity to review and comment on the following recommendations, but do not necessarily endorse them. They reflect the authors' views alone.

Procurement

Many contractors mention still-cumbersome (though admittedly much improved) RFQ paperwork and slow processing of contracts and contract amendments as a source of frustration. PHDC cannot assign work without a signed contract; between the end of one fiscal year and execution of their contract for the next, productive contractors may have to slow down and stretch out their remaining budgeted jobs. PHDC should find the means to streamline and expedite these legal procedures. In particular, contracts could be issued with the option for two one-year renewals; this would allow successful contractors to go through the procurement process every three years instead of annually and reduce the frequency of production slowdowns.

The relative shortage of contractors with certain skills, such as carpentry/structural repair, should be analyzed. Perhaps with larger contracts, they could increase their capacity. Perhaps some of the backlogged jobs assigned to them could in fact be performed by other contractors (plumbers, and roofers, for example, have experience in replacing rotted-out joists). If there is a real need for additional contractors in certain trades, then more should be recruited with appropriate incentives.

Tier Structure

The only reason for the current two-tiered service system is to facilitate the delivery of minor repairs to applicants who self-declare their income. If our recommendations for automated eligibility determination – with eligibility for LIHEAP or WAP being accepted as proof of BSRP income eligibility – are implemented (see below), it may be possible to eliminate the tiered structure altogether. If so, we recommend also increasing the maximum grant amount to \$20,000. Although the option is rarely used, PHDC can accept any additional money provided by a client, put it in escrow and add it to the funds available through BSR. Thus for cases requiring more than \$20,000 worth of work, eligible clients would be able to have the whole job done through BSRP if they can secure loan financing (e.g. through the RDA's PHIL process) for the balance of the cost. If a PHIL loan was involved, the work would be governed by the more stringent housing quality standards associated with that funding source. The use of a unified program structure with common application procedures and eligibility standards for all clients will eliminate the delay and duplication of effort that now results when a Tier 1 job must be canceled and re-routed to Tier 2.

Data management

The current database system, already more reliable and comprehensive than corresponding ones in the City's other housing agencies, should be upgraded with a Web-enabled "front end" and SQL middleware to support telephone-based eligibility determination, wireless communication and work order generation from the field, to preserve digital photographs, and to facilitate routine analysis of system operations.

Intake Process/Eligibility Determination

Applicant intake should normally be by telephone. Intake staff can screen out some would-be applicants because the work they need is not covered under program guidelines. If it is covered, the only issues are income eligibility and ownership. Having qualified in the current program year for assistance under the Low-Income Home Energy Assistance Program (LIHEAP) or the Weatherization Assistance Program (WAP), which have income guidelines the same as or more stringent than BSRP, should constitute proof of income eligibility. The intake worker can verify LIHEAP/WAP status through the database. By the same token, ownership can be checked on the intake worker's screen; this requires only that the current Board of Revision of Taxes (BRT) database information be loaded into PHDC's program database every year.

To promote access and coordination with other services, PHDC should also accept eligibility determination by the Neighborhood Energy Centers. Perhaps an overall increase in volume of service, and creation of the proposed new customer service function (see below), could mitigate union opposition to such a step. The NECs are approved to perform intake for LIHEAP, water conservation and other grants. They accept income documentation for either the last year or the most recent three months. For greater efficiency, the state Department of Public Welfare should allow NECs access to its LIHEAP database.

Successful applicants should receive a clear, simple pamphlet explaining what the program does and does not cover; staff who perform initial inspections should be trained to reinforce this message as it applies to the work scope for the given case.

To avoid an ever-growing case backlog, with contractors assigned to jobs that may have been inspected a year or more earlier, program intake should be closed when funds for the current fiscal year are exhausted. Would-be applicants who were turned away can be notified automatically when intake reopens. While this change adds an administrative step, it has the significant benefit of making clear that service delays result from insufficient funds, not PHDC caprice; more widespread awareness of the problem could generate political support for increased funding. Cynics have suggested that to keep intake always open serves the interest of politicians, who can scapegoat PHDC with responsibility for an ever-growing backlog.

Initial Inspection and Work Order

Within one or two work days after telephone intake, an inspector should be sent to evaluate the condition of the house, confirm that needed repairs can be done under BSRP, and establish the general scope of work. (Management points out that such a prompt response would be impossible unless funding increased enough to prevent periodic intake closure: when intake reopened, the flood of calls would overwhelm inspectors' capacity to keep up.) In some cases two inspectors would be needed to determine the scope knowledgeably. As explained below, we propose that work be authorized under more flexible terms than now. Inspectors should be equipped with Pocket PC-equipped camera phones linked to the PHDC database, enabling them to authorize the work directly from the premises. When the backlog of previously-approved cases has been eliminated, PHDC will thus be able to assign most jobs to a contractor 48 hours after intake.

Two clear messages were conveyed by our interviews with contractors and staff. First, the initial inspection is the most critical test of the effectiveness of PHDC field personnel. Failure to identify major problems and inaccurate cost estimates cause delay and duplication of effort. Worse, they can create false hope and disappointment when – after the contractor has been assigned and work has been scheduled – the client must be told that repairs would exceed the program cost ceiling.

Second, even the most well-trained and methodical inspector will unavoidably miss problems hidden inside walls, concealed behind furniture and clutter, or otherwise of a kind that becomes apparent only in the course of work.

To address the first problem we recommend that the most competent inspectors be assigned preferentially to initial inspections (rather than to final inspections, which are generally more routine). PHDC can increase the skill level of its inspection staff by adopting hiring policies similar to those of Licenses and Inspections and the Water Department, which require actual experience in the trade for which the inspector is responsible. A licensed, experienced roofer supervises PHDC's roofing inspections (cited as a model of competence by several of the contractors interviewed); it should be the goal to develop comparable expertise in the other trades as well. The current labor agreement between PHDC and the union representing inspectors requires that final inspection be performed by the most senior job class of inspector. That requirement does not preclude adoption of our recommendation; it merely points to the need for trade-specific expertise so that inspectors can ably produce trade-specific work write-ups. If the current job description precludes the use of a specific trade-skill criterion when hiring new inspectors, use of such a criterion would have to be negotiated with the union.

To address the second problem we propose adjusting the current work-order process. Preparing a work order involves (1) observing conditions, (2) taking measurements, and (3) making decisions about what work items should be specified. In current practice, the requirement for a written product connected with the second and third steps can distract the inspector from the critical first step. We propose replacing the current specification form with a systems evaluation form: inspectors would have to check and record the condition of a defined set of building systems and components. This approach should reduce the incidence of inspections that miss important problems and perhaps fail to identify all of the trades necessary to fulfill the comprehensive repair requirement of the program. Using the systems evaluation data, a computer program would select and define appropriate repairs for set priorities and assist in generating the work order (or work orders for each of several trades). PHDC would accrue a 20-percent contingency reserve for additional work that proves necessary to complete authorized repairs. By providing documentation satisfactory to PHDC, the contractor(s) can then adjust the scope within the contingency limit as conditions require: see **Change Orders** below. The PHDC final quality control inspection will verify the items, quantities and costs that the contractor has included on his final bill. Assuming that the repair is consistent with program guidelines, what the owner complained of originally should always be included as part of the work scope.

When telephone intake is the norm, inspectors will provide homeowners' first face-to-face contact with a program representative. They must be good listeners, to note and acknowledge

repair needs reported by the owner, and good communicators, to convey clearly what the program covers and the extent to which those problems can be addressed.

A second important role at the initial inspection is to note where household clutter or an unsanitary condition will impede work, and provide a checklist of instructions for clearing it out/cleaning it up before the contractor arrives. Elderly or disabled clients may need special assistance in this regard.

Contractor assignment

The program computer system should assign each new case automatically, with a secure option for discretionary override by top management. The contractor assignment algorithm should reward productive contractors with more work (some of those interviewed suggested that, with sufficient funds, they could eliminate or substantially reduce the backlog in their trade). For contractors with several crews, when possible PHDC should also assign several jobs in the same geographic area; such concentration allows the contractor to deploy his resources more productively.

Finally, while a backlog of heating-system repairs remains, PHDC should assign more of this work during the warm months when heating contractors have the most capacity.

Execution, Change Orders

If a job is assigned based on the assumption that it can be done for less than the \$20,000 cost ceiling but proves, on more careful examination, to be too costly the contractor should receive nominal compensation for going to the site, identifying the additional work needed, and preparing the paperwork for cancellation.

Under the proposed design-build approach, contractors would use a camera phone/Pocket PC device to document conditions requiring additional work; automatic approval would normally be granted for changes within the specified contingency limit. PHDC would reserve the right to send a field inspector in questionable or problematic cases.

Quality Control Inspection

All work by new contractors should be inspected before payment approval; 100-percent inspection should continue for all jobs over \$5,000. Below this threshold, however, the work of contractors who have proved reliable should be inspected only on a sample basis. This change will allow PHDC to focus more of its staff resources on initial inspections. Contractors would provide digital images, with views specified by protocol, to document their work for the closeout package. Any abuse of the self-documentation privilege would result in penalties from increased inspection to contract termination. (Management expresses concern that a change to sampling-based inspection would allow a dishonest or incompetent contractor to be paid for “a large body of work before PHDC catches on.” To minimize any such risk, the percentage of jobs inspected could be decreased gradually over time.)

For jobs where a punch list is generated in the final inspection, payment processing would be initiated with the understanding that before the check is cut, the contractor will submit digital photos to show that the punch list items have been taken care of. This recommendation

applies only to routine punch-list items. Contractors whose work is mis-reported or consistently deficient should be penalized.

There are occasional instances where a problem is not detected until final inspection. In such cases, by using the proposed Web connection to the database the inspector will be empowered to authorize additional work, up to the available funding limit, on the spot; as with punch-list items, the contractor would submit digital photos to document completion of this work.

Customer Relations

The change to a more efficient intake/eligibility determination process will free up staff to establish a dedicated customer-relations capacity, which BSRP now lacks. Being able to reach someone helpful and competent who can respond to questions about the status of their job, or how it is being performed, should reduce the information gaps apparent in WCRP/ACORN/UCSEP's client interviews.

Payment Processing

PHDC should secure a *permanent* "float" cash reserve that allows it to issue payments to contractors as soon as it invoices the City for reimbursement. It should also investigate the possibility of payment by direct deposit, rather than check. Finally, it should determine whether at reasonable cost PHDC's web site could be enhanced to allow contractors to track the progress of their paperwork.