INFORMATION SYSTEMS IN PUBLIC BUREAUCRACIES - A CASE STUDY AND ANALYSIS

by

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The subject is the design and implementation of management information systems (m.i.s.) in public bureaucracies. The contention is made that plans and programs, both physical and social, of city planners are often unnecessarily delayed, modified, or aborted because the public 'line' departments and agencies responsible for their implementation are poorly coordinated and supply very inadequate information to their personnel for managment decision making. Computerized management information systems have been proposed by many as a solution for this problem. The questions of whether such systems really are the best solution possible or whether they have any effect on these problems at all are not dealt with. The primary topic is the way in which the social and psychological problems that the process of designing and implementing a m.i.s. creates can be successfully solved.

A two year design and implementation process of such a system in the Boston Redevelopment Authority in which the author directly participated is described and analyzed. During the case period three different people served as the Director of the B.R.A., and there was considerable turnover in other staff positions as well. During this time three graduate city planning students designed a m.i.s. for the agency, supervised the technical programming effort by private consultants, and implemented the system. By May 1971, the system was fully operational in one of the urban renewal projects of the Authority and was about to expand to the other projects.

In the analysis of the case several factors are indentified which are considered important contributors to the apparent success of the system. Both general components of the design strategy and specific examples are discussed. Several liabilities of the strategy used are also noted.

The final section of the text contains several proposed strategies which the author considers necessary for successful design and implementation of such a system. One of these is that the new system must not threaten to noticeably increase any

employee's net workload unless such an increase is absolutely unavoidable. The author contends that any employee who perceives such a threat will actively work against the success of the system and that being in a public bureaucracy makes it much more difficult to prevent such opposition than in a private business.

Finally, the hypotheses contained in a recent book dealing with organizational change, The Distribution of Authority in Formal Organizations, are analyzed to determine their relevance for the specific type of organizational change under discussion. The two preconditions, presence of tension and support for the change from people with authority and power in the organization, are considered necessary for a successful design and implementation process. The four characteristics of a successful strategy for change proposed in the book are also considered quite relevant.

The author recognizes the liabilities of a primary participant in a case analyzing that case and of making general conclusions from a specific case. It is suggested that rather than being a definitive work on the subject this thesis will start to fill an apparent vacuum in the literature and be a starting point for further discussion and refinement of the topic.

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I. INTRODUCTION

A perennial problem of city planners is that implentation of their plans by public and private organizations is usually much slower than planners desire or feel is necessary. A corrollary to this is that when the funds necessary to implement either a physical or social service plan prove to be insufficient to complete it, the determination of which parts to complete and which parts to leave incompleted often seem to planners to be totally irrational. Although private firms and individuals often contribute to these problems, their primary causes and the ultimate responsibility for them usually are found in public agencies and their employees. There are many causes for these agencies' failure to implement plans expiditiously; often the causes are inherent in the plans themselves. Much of the time, however, the delays and decisions which can seriously decrease a plan's effectiveness are caused by poor coordination within and between agencies and inadequate or inaccurate information on which to base decisions.

This is a case study and analysis of the design and implementation of a computerized information system in the Boston Redevelopment Authority (B.R.A.). The system was intended to help solve the problems of coordination and inadequate information in that agency. The case covers the period from June 1969 to May 1971. More than 40 different people were directly involved in it.

The author was one of the three people directly charged with responsibility for the development of the system. Because of this, the case study, although written in the third person, is actually described as viewed by one of the primary participants. It was written using the author's notes and memory and several tape recordings made throughout the progress of the case by one of the other primary participants. The consequent level of detail is a distinct asset while the inherent bias is a recognized liability.

Following the case and its analysis there is a brief description of the information system as it currently exists with sample computer outputs. There also is a section containing several observations and personal attitudes about designing and implementing management information systems (m.i.s.) for public bureaucracies. These are primarily drawn from this one experience, but they are also the result of partial knowledge of a few other cases.

Two things should be noted. No attempt will be made to prove that the information system has solved the problems to which it was addressed. The system has not been in operation long enough to justify such an analysis. Besides, there are numerous other factors which affect the output of the B.R.A., many of which have changed significantly since the case started in 1969. Primary among these is the level of federal funding which has decreased drastically. The question of the successfulness of this type of system in public bureaucracies is certainly of great importance

but will not be dealt with here. It will be dealt with very thoroughly in a Ph.D. dissertation by Kent Colton of the Department of Urban Studies and Planning of M.I.T. Another question which is very relevant to the case, but which will not be dealt with, is whether an information system was the best way to solve the problems of poor coordination and inadequate and inaccurate information for decision making.

The possibility that an information system was not the best way to solve these problems or that even if it was it will be unsuccessful may lead some to feel this thesis is dealing with issues of dubious significance, namely, what strategies and methodology should be used to successfully establish an information system in a public bureaucracy. In response to this attitude two things should be said. Although this solution may not have been the best approach for the B.R.A.'s problems, it almost surely is an excellent approach to solve similar problems in other public agencies. Secondly, the fact that there is and may never be any proof that this information system even partially solved the problems it was intended to solve does not mean that this approach should be abandoned. Not until some other approach is proven more successful at solving the same problems would that be justified. Until that time, this apparently reasonable approach deserves analysis and refinement.

II. BACKGROUND

The Boston Redevelopment Authority was established in September 1957. Although the B.R.A. made considerable impact on a few parts of the city, notably the West End and the New York Streets Area, before 1960, it was not a large agency nor was it one of major interest to Boston as a whole until then. When Edward Logue came to Boston to be Director of the B.R.A. in 1960 this began to change, rapidly. The B.R.A. assumed the planning functions of the city as well as the redevelopment functions. Logue also set about proposing several ambitious Urban Renewal Projects, simultaneously. By 1967 he had a staff of nearly 600, and the Authority had commitments of over $200,000,000 in federal funds.

In 1967, Logue decided to run for mayor. He had proven his ability to secure large amounts of federal funds and assembled a dedicated, competent staff. During his 7 years as Director he had become familiar with the many neighborhoods of Boston. Since Mayor Collins, who had brought Logue to Boston, was not running for re-election, Logue decided to run for his position.

Logue was fourth among a slate of 10 in the preliminary election in September. Many felt that the antagonism and even fear created in Boston voters by the B.R.A., both before Logue's tenure and during it, was the main reason for his defeat. Kevin White won the runoff election in November, defeating Mrs. Louise Day Hicks in a race which drew national attention because of its racial overtones.

Logue resigned from the Authority in early August 1969. He was replaced by Hale Champion who had been selected by White. Champion started work as Director of the Authority in January 1968. He had not previously been involved with urban renewal.

Champion felt that the Authority staff contained a considerable amount of 'deadwood' and the administration of the many projects was entirely too autonomous. He quickly started attempts to remedy these problems. He was uncuccessful in removing the personnel from the payroll who he felt were unproductive or unnecessary. He was more successful in centralizing control, but he found that the information necessary to exercise this control rationally was not available.

When Champion left in August 1969, Jack Warner, his replacement continued this trend toward centralization of control. This conscious trend was very important to the case. It created a need for a procedure that would provide the information to top level management in City Hall necessary to exercise this control. Under the Logue style of administration this need was not nearly so great, and the idea of a computerized information system would have been of little interest to Logue or his staff. By the summer of 1969 a very different situation existed, one which was much more conducive to the establishment of a centralized information system.

The Boston Redevelopment Authority is organized by function, although its table of organization has been modified over time because of the power or prestige of certain individuals (Figure 1). Many positions are currently vacant, but in the summer of 1969 they were almost all occupied and with very little duplication.

The ultimate authority in the agency is with the five member Board of Directors. The members serve staggered, five year terms, with one appointed each year. Four positions are filled by appointees of the Mayor of Boston, the fifth is filled by an appointee of the Massachusetts State Government. The Board has control over all financial and personnel matters of substance. It exercises the right of eminent domain which the Authority enjoys, and the Board makes all major decisions about new developments. The Board also hires and fires the Director although the Mayor nominates him for appointment.

The Director is the chief administrator of the Agency. He is responsible for the coordination of all activities and the submission of items for consideration to the Board, which usually meets biweekly. He also executes all matters which have previously been approved by the Board. These include entering into contracts, sale of land, and official communications with other agencies and private firms. The Director has several personal staff members who are responsible to him directly. Five administrators, the Director of Project Operations and the Executive Director are also directly responsible to the Director.

The position of Executive Director originally was the position which had the authority now vested in the position of Director. When Edward Logue arrived, the position of Director was created for him because the Executive Director refused to

resign and the Board refused to dismiss him although the Board was willing to hire Logue. The Executive Director, Kane Simonian, also refused to give up control of the West End Project, the major project of the Authority when Logue arrived.

There are five positions of administrator which originally constituted an administrative 'cabinet' with the Executive Director. With the arrival of Logue the cabinet concept began to fall into disuse, and four of the positions are currently vacant, although the responsibilities of one of them have been assumed by the Executive Director. The position of Administrator for Staff Services is held by James Drought. Drought presently is the person highest in the Authority structure with considerable experience in urban renewal. He also has been with the Authority longer than most other employees, almost ten years.

The position of Director of Project Operations was created in January 1970, in an attempt to improve the coordination of project operations with the central office in City Hall. Responsibility for the function has now been assumed by Drought.

The next level of responsibility, that of department director, is the one with direct management responsibility for each of the departments with operating functions with which this case is directly concerned. These departments are the following: Urban Design, Engineering, Real Estate, Property Management, Residential Development, Nonresidential Development, Family Relocation, and each of the Project Site Offices. In each of these departments there are many employees, some of which have management responsibilities

but are subordinate to the department director.

Although the B.R.A. performs several functions, this case is only concerned with one of them, the implementation of Urban Renewal Plans. Others which the case is not directly concerned with are city planning for the whole city, including transportation planning, the process of developing and approving urban renewal plans and zoning administration. The operations which the case is concerned with are the parts of urban renewal which have received the closest examination and strongest criticism in such books as Urban Renewal in American Cities by Scott Greer, Urban Renwal: The Record and the Controversy, edited by James O. Wilson and The Federal Bulldozer by Martin Anderson.

The Urban renewal process, as handled in the B.R.A. consists of three simultaneous processes: site development, site preparation and site acquisition (Figures 2A and 2B). The next several pages briefly outline this process.

After an urban renewal plan is approved, developers must be found who are interested in making the particular type of development on each site that is designated in the plan. One or more proposals are submitted. They are reviewed by the staff of the Residential Development Department or the Nonresidential Development Department depending on the nature of the development. The appropriate department then makes a recommendation to the Board which eventually tentatively designates one person or

group as the developer of the particular site, referred to as a disposition parcel.

Once this step has been taken, the particular development is assigned to a staff member of the appropriate development department. All of the staff members of the Residential Development Department are lawyers, but this is not true of the Nonresidential Development Department. This staff member is responsible for guiding the development and developer through the process necessary to produce a feasible design and finance package which meets the requirements of the plan, city regulations, and often the wishes of the neighborhood.

The developer must develop complete architectural plans for the development. This is done in stages by a private architect starting with rough sketches and culminating in complete, detailed, working drawings. Each of these stages must be reviewed and approved by the Urban Design Department. Often plans must be approved by the Board, also.

The developer must also secure financing for the project. If the development is residential this usually requires F.H.A. insurance and subsidies. This involves lengthy feasibility studies and design reviews. For nonresidential developments financing requires location of long and short term financing sources. The development staff member is responsible for co-ordination and guidance of these processes.

The development staff member is also responsible for the preparation and eventual execution of the Land Disposition Agreement (L.D.A.). This legal document precisely delineates the responsibilities and rights of the developer and the Authority when the Board votes final approval of the proposed development. Another member of the development staff is responsible for securing appraisals of the disposition parcel and approval of a sales price by H.U.D. for the land.

The members of the two development departments have two primary interests: insuring that a development has considerable potential for success and getting construction of the development started. Often this requires arguing with staff members of the Urban Design Department whose responsibility is to insure the aesthetic quality of the development and its structural soundness and desirability but not its financial feasibility. At other times it may require convincing the F.H.A. or private investors that a project is feasible and will be of long term benefit, and frequently it requires pleading with other members of the Authority to complete their responsibilities with respect to the site preparation and site acquisition processes.

The first part of the site preparation process is the responsibility of the Engineering Department. Its staff members are responsible for reviewing engineering reports on the site prepared by a private engineering firm under contract to the Authority.

They are also responsible for the preparation of the complete description of the property which will be referenced in the L.D.A. This includes precise location of all underground sewage, water, telephone, gas, and electric lines, curb lines, sidewalk locations, etc.

If new utilities, streets, or street furniture will be involved, the Engineering Department staff members are responsible for working out technical problems with the various city agencies and private firms involved. Often the development staff member gets involved with these interactions also, particularly if they are delaying the development. The Engineering Department's main concern with this process is that the physical infrastructure is constructed and accessed properly and that it is neither overloaded nor accidently interdicted.

The site acquision process is the most complicated in terms of the number of different departments and different personnel involved with it. It is started when the Project Director requests the General Counsel's office to do a title search of a particular property and the Real Estate Department to get appraisals of the property. After appraisals by private firms are received, the Real Estate staff reviews them and proposes a price for the property to H.U.D. A H.U.D. employee reviews the appraisals and inspects the parcel before approving or rejecting the price. Once the Real Estate Department receives an approved offering price from H.U.D., they assign a private negotiator to deal with the owner determined by the title search. If the owner is willing to sell the property for

the approved offering price the negotiator closes the deal, and the Real Estate Department's responsibility for the parcel is completed. If the owner refuses to sell, the Real Estate Department informs the Project Director of this. When the Project Director feels further delay of the acquisition of the parcel will jeopardize the successful development of the disposition parcel of which the acquisition parcel is a part, he requests the Board to acquire the property by eminent domain. If the owner of such a parcel files suit for an additional award (the owner automatically receives the approved offering price) within two years, the Real Estate Department must prepare information for use by the staff of the General Counsel in court. Once a decision is made by the court and the former owner receives any additional money awarded him, the Real Estate's Department's responsibility for the parcel is finished.

The Real Estate Department is primarily interested in acquiring the parcel by negotiation for as little as possible. Acquisition by eminent domain is not at all pleasant because it usually means additional expenses as well as more complicated bookkeeping. Acquisition for as little as possible is important because the Authority has a definite amount of money available for real estate acquisition. By keeping acquisition costs down, the department will be more likely to have enough money to acquire all the land necessary. The speed with which any particular parcel is acquired is not of primary interest to them.

As soon as negotiations with the owner to acquire the property start, occupants of buildings on the parcel, if there are any, are contacted by members of the Family Relocation Department or the Business Relocation Section of the Nonresidential Development Department. These staff members determine the desires of the tenants or private businessmen and what benefits they are eligible for. The staff members then attempt to relocate these individuals according to their desires and see that they receive all benefits for which they are eligible and which they desire.

The main interest of the members of these departments is satisfying the desires of the tenants or businessmen who are to be dislocated. This often takes considerable time and discussion which means that speedy relocation is not of overriding importance. Pressure to relocate someone immediately is not appreciated because it almost surely means a less than optimal result for the relocatee.

When the Authority acquires a property, it becomes the responsibility of the Property Management Department. The department director establishes rents and his staff collects the rents. The staff also provides maintenance service and is responsible for reporting tenants whose rent is in arrears to the General Counsels' office where eviction proceedings are initiated.

When all the tenants are relocated or have been evicted and the Project Director feels that the structure should be demolished, either for safety reasons or to avoid delay of the site development process, the structure is released for demolition. Supervision of the

demolition, backfill and grading process is the responsibility of the Engineering Department, but when it is completed the vacant lot becomes the responsibility of the Property Management staff. They must insure that refuse is not dumped there and that the property is not used for other purposes such as parking. Their responsibility for the parcel ends when the property is sold to the developer as part of a disposition parcel.

The dominant interest of the Property Management Department is providing safe and sanitary living conditions with as little maintenance as possible because all the buildings are to be demolished in the near future. Because of limited funds, unrecoverable maintenance expenses decrease the deparmtnet's ability to respond properly to serious emergencies in the future such as plumbing or heating failures. Rapid demolition of a structure and transfer of the property to the developer save this department a lot of trouble.

All of the acquisition parcels in a disposition parcel must complete this acquisition process before the disposition parcel may be transferred to the developer. Since there may be one hundred acquisition parcels or more in a disposition parcel, such successful completion usually requires overcoming numerous bureaucratic and personal problems. Although each problem is small by itself, a combination of them can very easily delay transfer of the parcel to the developer long enough to jeopardize the feasibility of the new development. The development staff member assigned to the development

and the Project Director are responsible for prodding other employees of the Authority to avoid such delays.

The nature of bureaucracies is a subject which many people have devoted their lives to studying, and countless books have been written about it. Two of the most relevant ones are The Dynamics of Bureaucracy. by Peter Blau. and Inside Bureaucracy, by Anthony Downs. Any background discussion of the whole subject here would necessarily be superficial and of questionable utility. It is sufficient to note that the B.R.A. exhibits several traits which sociologists consider characteristic of bureaucracies. It has a very definite although not particularly simple structure. This structure is intended to facilitate the accomplishment of a definite but complex task. The function of each employee is intended to be directly related to that task, but each employee's specific activities are quite narrowly defined and restricted to the accomplishment of certain small parts of the process. Implicit in the organization is the concept of formally defined authority. Certain individuals are assigned the responsibility of completing specific but sizeable tasks, and they are given the authority to direct and control subordinate employees in order to fulfill these responsibilities. The rewards for assuming such responsibilities are larger salaries, more prestige and fewer restrictions than those employees with less responsibility.

Besides these formal characteristics there are informal ones. These are consequences of the personalities of the particular individuals who fill the positions in the formal structure. Because

of previous experience, greater training, or personal resources, certain individuals excercise greater responsibilities than they are formally assigned. People with theoretically equal amounts of responsibility and authority, in fact, often have very different amounts. Some people who are formally responsible to another employee are not controlled at all by this person but may be controlled very strongly by someone else, either inside the agency or outside, who has no apparent formal or structural authority over the first person. Finally, information which may be transmitted formally from one person to another by a memo may also be communicated informally to several other people. In addition, people who are not formally authorized to transmit information to others may do so verbally. Often a person does this to insure that he will receive useful or interesting information in the future which he might not receive through formal channels.

These informal characteristics are of particular interest. They point up a fact which is often overlooked; organizations do not really have a purpose of their own. Rather, the people who are in the organization adopt purposes which are moderately coordinated, and consequently the organization as a whole appears to have a purpose of its own. Obviously, the more completely each employee adopts the goals which are proposed by the organization and works toward them, the more apparent are the purpose or goals of the organization as a whole. Similarly, the less the employees adopt the official goals of the organization, the less apparent is the purpose of the organization.

Even this description is an oversimplification. Every employee working for an organization has a variety of personal goals. One or more of these goals may be goals which are defined by the agency, but not necessarily. For instance, a member of the staff of the residential development staff may have internalized the goal of guiding developments to successful completion. By working to achieve this personal goal, this staff member helps to achieve the formal goals of the whole agency.

An employee may have goals which are not those of the agency but which require him to work towards the goals of the agency for their fulfillment. A member of the residential development staff may have a personal goal of promotion to a higher paying, more powerful position, either inside the Authority or outside. To achieve this goal, he may consider it necessary to work very hard to bring developments to successful completion even though he is not personnally interested in this goal for its own value.

A person in this situation may also consider it necessary to take other actions to achieve his goals. These actions may be directly counter to the goals of the agency. For instance, a person may consider it necessary to frustrate attempts by other people with similar responsibilities to fulfill them in order to assure himself of promotion. Thus, although he himself may work towards goals of the agency, he may simultaneously work to prevent the goals of the agency from being achieved by other people.

A person may also have goals which bear no relation at all, either positive or negative, to those of the agency. A person may only want to become personally acquainted with many of the other people in the public and private sectors who are active in the field of residential development. In order to do this he may work on the residential development staff. All he must do to protect his job and achieve his personal goals is perform his job barely adequately.

A person may even have personal goals which are in direct conflict with those of the agency. A person might feel that no more residential development should occur in Boston in urban renewal projects but that these areas should remain as they are. He might decide that the best way to do this is to actively work against the completion of developments. Clearly, this could make the actual purpose and accomplishments of the Authority much different from its formally stated purpose.

Every employee has many personal goals, and he works to fulfill them. If a large majority of the employees have goals which are also those of the agency or which require actions which are in line with goals of the agency and if they are motivated to achieve those goals and do so in a coordinated fashion, then the apparent purpose will be very similar to the formally stated goals of the agency. Lawrence and Lorsch have defined organization as "the coordination of different activities of individual contributors to carry out planned interactions with the environment."[1] If a considerable proportion of the employees

1 Paul R. Lawrence and Jay W. Lorsch, Developing Organizations, Diagnosis and Actions, p. 3.

have goals which are opposed or unrelated to the formally stated goals of the organization, the actual accomplishments of the agency may be quite different from the stated goals.

The output of an organization such as the B.R.A. is actually the net consequence of many people with numerous and widely disparate goals, working to achieve these goals. In so working they take advantage of both formal and informal relationships. While employees may appeal to their direct superior for a transfer or a promotion they may also appeal to a personal friend with influence on people in higher positions in the agency. In return for assistance they may promise to provide information or personal time or money in the future.

A significant change in the operations of bureaucracy almost always affects the nature of the agency, even if it doesn't affect the formal nature. This is because the informal nature is usually much more complex than the formal. While each employee may have one or two formal goals and a definite set of approved relationships which are intended to help him achieve his formal goal(s), the same employee probably has far more informal relationships which he has developed to help him achieve his informal goals. The complex web of all of the employees' informal relationships will almost surely be disrupted by widespread procedural changes.

It should be recognized that the establishment of an information sytem constitutes a significant procedural change. The success of that information system is directly related to its affect on the informal nature of the bureaucracy. The system will probably not be successfully

implemented if it threatens a considerable proportion of the informal relationships. (The converse is not true). Employees whose relationships are threatened will work, often using their informal relationships, to frustrate implementation efforts.

Even if an information system is successfully implemented, which is the primary concern of this thesis, its impact upon the functioning of the agency may be negligible or negative as a result of its impact on these informal goals and relationships. If the system break informal relationships which were used to achieve personal goals which were in line with formal goals, then it may decrease the overall efficiency of the operation. If the system somehow improves relationships which were used to achieve personal goals in direct conflict with formal goals or provides opportunities for new relationships of this type to develop, the effect on the agency's performance may also be lessened. Although an information system is primarily designed to improve the quality of performance of employees when using formal relationships, its effects on the informal relationships of a bureaucracy must be recognized in the design process.

III. The Case

In June, 1969, Kent Colton was looking for a summer position with a public agency which would involve activities related to P.P.B. Having received a Masters in Public Administration and finished the first year of M.I.T.'s Ph.D. program in city planning, this area was of particular interest to him. He initially made contact with the Housing Development Administration and the Bureau of the Budget in New York City, the Bureau of the Budget in Washington, and the Mayor's Office in Boston. Boston was his first choice for location, but initially it appeared that not much was being done with P.P.B. in Boston.

Colton investigated the Boston scene more thoroughly and found that the Boston Redevelopment Authority was in the process of determining immediate priorities. Although his interests were on a higher level of complexity than the B.R.A. was concerned with, the advantages of the Boston location led Colton to join the B.R.A. His specific assignment was to pull together the priorities of the various departments and site offices of the B.R.A., determine which were the most widely shared, and produce a list of priorities for the Authority. Colton was intially responsible to Larry Kirsch, the assistant to Hale Champion, the Director of the Authority at that time.

In January 1969, Kirsch had sent a letter to all department heads and project directors requesting from each of them a list of their priorities for their own operations. This was the beginning

of a six month iterative process in which Kirsch kept redefining what he wanted, and the department heads and project directors kept rewording their top concerns. Despite this process, when Colton arrived the lists had almost nothing in common. In fact, they hardly seemed to have been written with a common understanding of what was wanted. Colton's first task was to find some common denominators of the various lists and then produce a composite list.

Colton started by interviewing all the people who had responded to Kirsch's request. This provided him with a knowledge of the Authority as a whole as well as an opportunity to try to relate the lists to each other. He quickly found that part of the incongruity was related to the basic organization of the Authority. The main office, in City Hall, is divided into several major departments -- Real Estate, Engineering, Development, Urban Design, Family Relocation, and Property Management. In each of the site offices there are members of each of these departments who are responsible to both the Project Director of that project and their department director who is in City Hall. Similarly, both the Project Directors and the department directors consider themselves responsible for specific activities in the projects.

This situation had often resulted in the same task being of different importance to different people who were jointly responsible for it. Determining what the real priority assigned to this task ought to be was made even more difficult by the historical development of the Authority. Under Edward Logue, Director of the Authority

from January, '68, to August, '69, the Project Director had ultimate control and responsibility for all activities in his project. Hale Champion, however, was strongly in favor of having this control and responsibility shifted to top level personnel in City Hall. Since this change had not yet been fully accomplished it was not obvious whether the Project Director's opinion or that of the department head should take precedence.

Colton also discovered frequent disagreement as to just what had been accomplished and what remained to be accomplished. This was primarily due to the inaccurate records kept or poor communication. However, the most disturbing problem encountered was that this whole process had such a short time span --a couple of six month periods-- and that so much time and effort had to be expended to determine these priorities. The inadequacy of the process was amply demonstrated by the fact that the first six month period had nearly passed, but the priorities for that period still hadn't been settled.

Colton completed this assignment one month after he had started, but it was not a satisfying accomplishment. When he and Kirsch presented the product to Champion it was obvious that Champion shared Colton's concern about the inadequacy of the process which had been used. Champion expressed a desire to institute a system which would pull together operating information in a regular manner and facilitate control of the Authority. Kirsch felt that they should do an intensive case study of a few selected parcels to determine exactly the process involved and the relevant information. Colton had something else in mind.

Kirsch then left for two weeks in July, and during that time Colton began to firm up his ideas. He spoke to Will Noonan, Project Director in the Charlestown Site Office, who described to Colton how he set up a proposed schedule for each disposition parcel in the project and kept track of its progress along this schedule. This idea appealed to Colton, particularly if it could be expanded to cover all activities, not just the disposition process, and if it could incorporate physical descriptions and financial information. At this time the idea of an information system, probably computerized, began to seem attractive and relevant to Colton. A system which would receive information from various sources in a specified form on a regular basis, process this information in a routine manner, and periodically output data in an aggregate form useful to management would certainly eliminate many of the discrepancies which Colton had had to deal with.

Near the end of July Hale Champion announced his resignation from the B.R.A. to take a position with the University of Minnesota. Shortly after that, Larry Kirsch decided to leave to take a position with Boston City Hospital. Colton realized that until a new director was appointed no major decisions about a new program would be made. He decided to go to New York City to investigate the efforts to establish an m.i.s. in the Housing Development Administration (HDA) there. Before he left he wrote a memo to Kirsch (Document 1) outlining his ideas and making a general

proposal to embark upon the research task necessary to design and establish a management information system.

Colton then spent three days in New York City. He met a friend, Paul Van Der Stratton, from Syracuse University who was in the H.D.A. and working on the implementation of the management information system there. His discussions with Van Der Stratton, and Tom Kingsley, Joan Tinglehoff and Bob Keller were useful, but Colton's ideas were still too vague to be able to discuss specifics of design and implementation with these people.

Upon returning from New York City, Colton drew up a seven page proposal (Document 2), drawing on the new information from New York. Since Champion's main interest was in housing and the system in New York City system dealt strictly with housing, the proposal was for a Housing Information Control System. Champion was favorably impressed by the idea, but since it was now August 20, one week before his departure, the primary concern was convincing his replacement of the importance of the idea. At a luncheon with Kirsch, Champion promised Colton he would made a very strong suggestion to Jack D. Warner, Champion's successor, that the project would be continued.

Two weeks later, after Champion had left, Tom O'Brien, Director of Research, asked Jack Warner if he wanted the project to continue. (O'Brien had 'adopted' the project during the period of directorship change even though Colton was not technically a part of the Research Department.) Warner said he definitely did want the project to continue. Colton felt that he wanted to personally confirm this

commitment, so he immediately went in to see Warner who repeated his previous statement. Warner also directed Colton to work closely with Don McGinness who had just been appointed to the position of Assistant to the Director. This guaranteed access to the Director, but it also meant that the project had yet to be directly associated with anyone in the Authority who was a long time, 'established' employee. Kirsch and Champion had been there less than a year, Warner was brand new, and McGinness had only been appointed to a top level position since Warner's arrival. Whether this was an asset, liability, or unimportant is an important question which will be dealt with later.

Colton faced two problems at this point; devising a method to educate top level personnel in the purpose and potential of the system, and thereby gain real commitment to the system, and determining what the next step in the development process should be.

Colton was sure that Warner did not really understand either the need for the system or its overall concept. He also had concern about just how well Warner would ever understand the system's purpose or concept. Colton had very similar feelings about Don McGinness. James Drought, Administrator of Staff Services, who was the only long time urban renewal specialist who had any contact with the project, recognized the need for such a system but questioned the need for a computerized system and the amount of time which Colton felt necessary for development and implementation - 4 man months. Because of these questions Colton doubted whether Drought fully understood the

concept of such a system either. Had one of them fully understood the concept and its value Colton might have been provided specific support such as several additional personnel. This would have speeded up the project and increased its importance in the eyes of other employees.

The other major problem Colton faced was of strategy. He was about to return to M.I.T. for the second year of his doctoral program and consequently could only spend 20-25 hours per week. If his estimate of 4 man months to complete the job was at all reasonable he obviously needed a considerable amount of assistance if he was to complete the project in the near future. Another graduate student, James Chard, who was at Harvard in a joint M.C.P.-M.B.A. program and who had been working at the B.R.A. for the summer on a project which had brought him into fairly continual contact with Colton, seemed like a possible source of increased manpower.

Chard had been working for the summer attempting to assess the economic effects of the Prudential Center development. He had been continually impressed by the lack of information in various city departments and the near impossibility of the task of organizing and analyzing the odd, non-comparable, disparate pieces of information which were available. The research potential of a management information system similar to the one Colton was proposing had been apparent to Chard. Chard expressed an interest in working with Colton on the project. Colton was equally interested in this prospect. The two considered the idea of forming a consultant firm and doing the job under contract to the Authority, but Colton and O'Brien felt this would not be a wise approach and it was discarded.

Late in September, O'Brien had succeeded in obtaining approval to hire a full time assistant, Clay Hall. Since Colton, Chard, and O'Brien all felt that it was important that there be at least one full time employee involved with the project, it was agreed that Hall would spend half of his time on the project.

In early October, however, the Research Department received a request to help the Rehabilitation Section of the Development Department establish a new records keeping system to straighten out their files, particularly in the South End Urban Renewal Project. Colton was interested in this because he saw the opportunity to monitor all the major activities of the Authority in the area of residential development by linking a Rehabilitation Information System with the proposed Housing Information Control System, but he also realized that he would have little time to devote to the rehabilitation project. He was able to spend a few days with Herb Minkel, an N.Y.U. law student who had worked during the past summer in the South End Site Office investigating the file and records keeping system currently used by the rehabilitation section and developing possible solutions. From these conversations Colton learned Minkel's analysis and noted his proposed solutions.

Because O'Brien was trying to encourage requests similar to that made by the Rehabilitation Section, he felt it imperative that his Department respond quickly and positively. He directed Hall to split his time between the Rehabilitation Project and the Housing Information Control System (H.I.C.S.), and Colton and Chard agreed that they also would work on the rehabilitation project, to whatever extent possible while concentrating on the H.I.C.S.

After working for a month under this arrangement it was obvious that it was not very satisfactory. Colton and Chard were much more concerned about the H.I.C.S. than the rehabilitation project, but they wanted a part in decisions concerning the rehabilitation project. Hall, on the other hand, felt only tangentially involved with the H.I.C.S. work and at best a 'general partner' in the rehab work, but he preferred to have a major role in at least one of them. After considerable discussion, it was decided that Colton and Chard would assume sole responsibility for the H.I.C.S. while Hall would supervise the rehabilitation project alone. Hall went on to establish a Rehabilitation Analysis and Reporting Information System (RARIS).

The immediate task facing Colton and Chard was twofold; they had to educate many people to the purpose and potential of the system and they had to understand completely the whole development process at the B.R.A. in order to design a system which would monitor the real world, not a misconception.

The questions and lack of understanding on the part of top level personnel has been described. All the other managerial level personnel were in a similar position. Several people's response was that the Authority had tried P.E.R.T. (Project Evaluation and Review Technique) and C.P.M. (Critical Path Method) before, but they hadn't worked because the Authority wasn't susceptible to regular management techniques. Most were sure that the new approach would fail, also. Jim Dolan, Administrator for Development and Legal Support Services, even felt that the project was not a good idea, but he didn't present any major opposition.

Because of this general situation, Chard and Colton felt that they should start promoting and explaining the concepts of the system immediately. They reasoned that unless middle and top level management personnel understood the purpose and concept much more completely, they would never accept or use the system once it was implemented but would resist it as a half-baked idea which would just take up their time but not help them at all.

The months of October, November, and December 1969 were spent simultaneously promoting the system and learning the redevelopment process. Chard and Colton talked to every department head and several project directors at least once. Many of these people were contacted two, three, or more times. These included Kane Simonian, Executive Director; Pat Twohig, Assistant Real Estate Officer; Wally Orpin, Director of Engineering; Bill Adams, Project Engineer for the South End; Terry Farrell, Director of Residential Development; Jack O'Neill, Chief of Business Relocation; and Joan Smith, Director of Family Relocation. They also spoke to Sam Otis of the Urban Design Department; Robert Devin, a lawyer in the Development Department who was Liaison Officer with the F.H.A.; Robert Walsh, Project Director of the South End; Mace Wenniger, Project Director in the Fenway Project; Dave Weiner, who was the Authority's main contact with the Public Improvement Commission; Joe Berlandi, who was the person primarily involved with zoning questions and problems; William Haynesworth, Director of Nonresidential Development; Tina Holland, who also worked

in the Nonresidential Development Department; Matt Curry, of the Engineering Department; Rick Kuner of the Transportation Section of the Planning Department; Walter Smart, Director of Social Services; Ambrose Griffin, Head of the Property Management Section of the Real Estate Department; John Mullins, a planner in the Waterfront Project, Lou Novak, a lawyer in the Residential Development Department; and Mark Donovan, the recently appointed Director of the Charlestown Project.

In each of these interviews Colton and Chard gave a low-keyed, general description of their project, its purpose and benefits, but made no specific commitments or arrangements. In each case they tried to relate the benefits of the system to the responsibilities and problems of the particular person they were speaking with. At the same time, they asked the person to describe his or her responsibilities in detail, particularly with respect to the development process itself. Whenever the person described a problem that was related to inadequate information or poor coordination within the Authority, Colton and Chard quickly pointed out the potential of the H.I.C.S. for alleviating these situations.

From each of these interviews Colton and Chard wanted information which would identify and define the part of the process the individual was responsible for, what types of decisions he or she made in exercising these responsiblities, and what information was used in making these decisions. They also tried to determine the location, contents, and responsibility for maintaining files and records currently in use in that particular department or section. Additionally, they asked what

information not currently available would be useful. They also tried to determine, from their own knowledge of what other information existed in the Authority, what other information might be useful to each person.

Between interviews Colton worked on a detailed flowchart of the redevelopment process for housing. He started with three general, simultaneous processes; site acquisition, site preparation, and site development. After each interview he added information to the flowchart which was on a sheet of paper 7 feet by 4 feet. The flowchart served several purposes. Primarily it served as a visual representation of their knowledge of the urban redevelopment process. The flowchart was useful to identify places where their information was skimpy or where they had conflicting data. It also was useful as preparation for interviews with Authority personnel. They could see quickly what they knew about the part of the process which any particular person handled, what other parts of the process were related to his or her job, and what information they still needed that this person might be able to supply. Finally, it would be useful to design the part of the information system which would monitor the process.

After adding the products of each interview to the flowchart, Colton determined what old information had been corroborated by the new and what had been contradicted, as well as what information dealt with aspects of the process which they previously had had little or no information about and should be corroborated in future interviews.

Whenever possible, contradictions were investigated immediately. If this wasn't possible, the contradictions were noted and return interviews were scheduled to clear them up.

Often the contradictions were the result of terminology; people used different words but meant the same thing or used the same word but meant different things. Identifying these problem terms was important since without this knowledge they might have been used in the final form of the information system with unfortunate consequences.

Return interviews were also scheduled to fill in areas which were 'thin' because Colton and Chard hadn't been familiar enough with the process at the time of the first interview to ask the specific questions necessary to obtain all the necessary information. The second and third interviews were also used to review the proposed management information system and display their increased knowledge of the process. This served to counteract labels of 'outsiders' and 'people who don't understand how things really work.' Colton and Chard considered these return interviews as opportunities to display their interest in eventually providing a useful service to operating and management personnel.

While Colton was working on the flowchart, Chard was grappling with the problem of just exactly what information would be contained in the system. This was the first task that was specifically related to the design of the information system. All that had been done so far could be described as critically necessary background investigation. This fact is important. This lengthy investigation was necessary because neither Chard nor Colton had had previous experience with renewal. If they had, they might have started designing the system with extremely incomplete knowledge.

The main items of concern had initially been housing disposition parcels; the system had been proposed as a means of decreasing the time necessary to take a disposition parcel which was to have housing built on it from beginning to end. As they investigated the disposition process more thoroughly, Chard and Colton decided that, since the process that nonresidential parcels went through was not much different from that which residential parcels went through, nonresidential parcels should be included in the system. They changed the name of the system to the Development Information and Reporting System (DIRS).

Chard quickly decided that the basic unit of the system would be disposition parcels. The flowcharts supported this choice. Chard then set about determining what information about disposition parcels would be systematically obtained and maintained. Chard and Colton decided that each piece of information about a parcel had to be justified by the fact that at least one of the operating or management personnel they had talked to had said he used or could use that piece of information or that Colton and Chard felt that at least one management person could make good use of a piece of information if it were regularly made available to him. No data was going to be kept on the file only because it seemed that it might be useful for research at some point in the future.

Because of this data-justification procedure it was necessary to decide as soon as possible who was going to receive reports. Colton and Chard decided that each project director should receive a report which would describe the status of each disposition parcel in his project and describe the development which would eventually be built

there, or already had been built, if the parcel had been completed. This report would also summarize the status of the acquisition parcels which composed each disposition parcel: how many had been acquired, how many still had buildings to be demolished, and how many units were still occupied.

Another report was proposed to go to the members of the staff of the development departments. It would serve as a scheduling tool to help them guide each disposition parcel through the development process and as a handy description of the development which was to be built there. A third report would go to the top level administrators, at this time John Warner and James Drought, and would summarize the status of all the disposition parcels in each Urban Renewal Project. This report would provide on one page, if possible, information summarizing the accomplishments to date, projected achievements, and associated costs, in each urban renewal project.

The data about the status of each parcel with respect to the development process was not considered too difficult to acquire and keep up to date. If the reports were well designed as scheduling tools the development lawyers would fill in the dates as each step in the process was completed. The data describing the development to be built on a particular parcel also wasn't considered too difficult to acquire and keep up to date; particularly in the case of residential parcels. One form which was required for all F.H.A. insured or subsidized loans (221 (d) (3), 220 (h), and 236) contained a very complete physical description of the development. Transferring

the data from this form (FHA 2013) would be a very simple task. No such form existed for nonresidential developments, but all of the important information was recorded at one time or another in at least one place. This report that the nonresidential development staff would receive from the system would provide the only single place where all the information was assembled. The reports were given a very good probability of being maintained because they were the single place where all the information could be found.

The information concerning the status of the component acquisition parcels in each disposition parcel and the costs associated with these acquisition parcels presented much greater problems. This information was of great importance in one way or another to all the people Colton and Chard felt ought to receive reports, but none of these people had any way of inputting the information to the system because they did not have direct access to it.

The importance of this information to these people is that the 'acquisition process' (acquisition, relocation, and demoltion) must be completed before the disposition process can be completed. The Land Disposition Agreement (L.D.A.), which is the document used by the Authority to convey a disposition parcel to a developer, stipulates that, except in cases of building rehabilitation, the disposition parcel will be cleared, graded, and ready for immediate construction. If a disposition parcel works its way through the disposition process, is ready for conveyance to the developer, and the developer is ready to begin construction, but each acquisition parcel contained

in the disposition parcel has not reached the end of the acqisition process, major problems almost surely develop, particularly for residential disposition parcels. If completion of the acquisition process takes very long, the developer has to renegotiate his financing, his FHA insurance, and his agreements with contractors. All of this often makes it impossible for the developer to execute his plans when the acquisition process is finally completed.

There are almost as many problems if the acquisition process is completed for most or all of the component acquisition parcels long before the disposition process is completed. If there are occupied buildings on the acquistion parcels, the Authority becomes the landlord. The Authority may manage these buildings with their tenants for an extended period while the disposition process is being completed, which is a costly operation, due to the generally deteriorating or dilapidated condition of most of the buildings. Or it may relocate or evict the tenants immediately, and demolish the buildings. Although this option is less costly for the Authority, it is very destructive to low income, central city neighborhoods with housing which is inadequate, particularly in terms of supply, and a locally employed job force, which walks to work or uses mass transit. No matter which option is used, the Authority must pay for insurance on the property, keep it relatively clear of trash and debris, and make payments in lieu of taxes to the city which are based on the number of parcels owned by the Authority.

Quite obviously the most desirable method of operations is to complete the two processes very nearly simultaneously. This was one of the primary goals that Colton and Chard felt the system could help to achieve by making information about the status of parcels in the two processes more readily available in a useful form. The person who had best access to data about the status of acquisition parcels were the project directors, but although they might be able, with considerable effort, to keep accurate track of how many acquisition parcels in a disposition parcel still needed to be acquired, or still had buildings to be demolished, there was no way they could provide the necessary cost information -- how much had been spent to acquire the parcels, how much to relocate the tenants, and demolish the buildings. Colton and Chard felt that this information was very fundamental to the system, but were hard pressed to come up with a method to obtain the data regularly. Without such a method they knew that this information would almost surely be inaccurate most of the time, and that this part of the system would be more disfunctional than functional because its systematic nature would give a sense of authority to the acquisition information which wasn't justified. They were also dissatisfied with the need for a considerable amount of staff effort by project site office personnel to provide acquisition parcel status information and maintain its accuracy. Recognition of these problems was important. Had they been ignored the system would have been doomed from the start.

Early in November, 1969, the idea struck Colton, while waiting in Kendall Square MTA station for a subway to City Hall, that what was really needed was a system to manage the acquisition process,

a system to manage the disposition process, and an automatic way to relate the information in each one. After discussions with O'Brien, Colton and Chard felt that such a two part system was really the only way to solve the problems they faced, but that to design the system to manage the acquisition process they would have to review and investigate that process in greater detail to be sure they understood it thoroughly.

This made it absolutely impossible to meet an informal deadline they had set for themselves of having the first computer outputs by Christmas, 1969. The decision to include and design an acquisition system also created manpower problems. Chard had only been able to spend 5 to 15 hours per week at the B.R.A. during the fall of 1969, which was less than he had expected in September. He felt that after the first of 1970 he would not be able to put in more than five hours a week, which he and O'Brien felt should be spent putting the research Chard had done over the summer concerning the Prudential Center in final form. Although Colton had averaged 20 hours per week during the fall, he planned to take his Ph.D. general exam in February, 1970, and consequently would have little or no time to devote to the project until then. At that time (December 1969) another member of the Research Department staff, Lowell Richards, was finishing the project he had been working on since August 1969, and was looking for something to do when he actually finished his project in January. Richards had talked with Colton and Chard several times about the m.i.s. they were working

on and was very interested in getting involved in the project. Colton felt that Richards' familiarity with computers and computer programming would be very useful in the technical design and implementation phase. Tom O'Brien, Director of Research agreed with this reassignment, and by the middle of December, Richards, who was a first year graduate student at M.I.T. in its Masters of City Planning program, was spending about 15 hours per week on the project.

Although it was impossible to produce any outputs by the end of 1969, Colton felt it imperative that something be written by the end of the year. This could serve an educational purpose as a description of the system for others to read as well as being a 'product' of the last several months of work.

Colton finished this description of the system in mid-December and gave it to O'Brien and Hall for their comments. Both were highly critical of it. They felt that the approach was not very clear and that the vocabulary used had entirely too much 'jargon.' Colton left for home (Utah) for the holidays, and while he was gone, Richards completely rewrote the description which by then had taken the form of a proposal. When Colton returned, he modified Richards' version, and by Monday, January 12, the proposal was finished and acceptable to all directly concerned (Document 3).

The flowchart of the urban renewal process, which Colton felt was finally adequately detailed, also was a major product and potential educational tool, and, as such, Colton felt it should be redone in a reproducible form. Late in November he took it to the Authority's graphics section to be redone and neatly lettered. His 7' x 4' hand

penciled original had three levels of detail about each step of the process. Colton requested that the finest level of detail be dropped in order to produce a new flowchart of a reasonable size and legible from distances greater than 2 feet. By the middle of December, no one had started the job and Colton and Richards decided they would have to redo it themselves except for the standardized, inked printing. They did this, and by the first week of January 1970, the flowchart was finished in reproducible form: one flowchart describing the process for residential disposition parcels, and another nonresidential disposition parcels and residential disposition parcels which were not insured or subsidized by the F.H.A. These became appendices to the proposal. The unwillingness of the graphics section to start the job until most of it was done indicates the project was not understood to have high priority.

Colton and Richards felt the next step was to present the proposal to the Director and receive specific approval to design and test a prototype of the system. Since Don McGinness, whom Colton and Chard had been working under, had resigned in December, Tom O'Brien requested a meeting with the Director. On Friday, January 16, 1970, Colton, Richards and O'Brien met with Warner to present the proposal to him.

During the last few months several things had happended which produced the context in which this meeting was held. In September, Warner had assumed full control of the Authority. Shortly thereafter, several high level personnel had left. These included Jim Dolan, Development Administrator; Jim Diamond, Director of Urban Design; Ralph Partan, a highly respected architect in Urban Design; Robert Devin, Development Liaison Officer with the F.H.A.;

Robert Gunderson and Lou Novak, lawyers in the Development Department; and most recently Don McGinness. Warner had filled several of these positions with associates of his, some of whom were not at all familiar with the urban renewal process, a process which he himself had first come in contact with when he was appointed Director. Several of the people who had left had felt that the information system would not work because they viewed the urban renewal process as non-systematic and unable to be managed in a routine or standardized fashion. The new personnel had had little or no experience with urban renewal from which to formulate an opinion about the feasibility or usefulness of the system. On the contrary, the system could be useful for these people to learn how the process worked.

In early December, 1969, the B.R.A. had been informed by the Department of Housing and Urban Development (H.U.D.) that the B.R.A. would receive approximately 10-15 million dollars instead of the 80 million dollars which had been requested. Warner and Mayor Kevin White had reacted very strongly to this. Warner requested complete dollar totals by project area of what had been spent to date, and for what purposes, and what was necessary to continue the operations of the Authority in each project area. The response to this request was popularly known within the Authority as "the December panic." Ken Fried, the Authority employee assigned to assemble and organize the data produced by the various projects and City Hall departments, experienced precisely the same problems that Colton had experienced the summer before. This was Warner's first experience with assembling

large amounts of managerial data from within the Authority and his first realization of the difficulty, if not impossibility, of the task. Warner and White then both went to Washington to demand more money. The amount finally received by the Authority was close to 20 million dollars.

This combination of events had produced a very uncomfortable position for Warner, but he did not respond by requesting a status report on the D.I.R.S. from Colton or O'Brien. Had he really understood the concept of the system and what it would do he surely would have been interested to know how much progress towards implementation had been made. He also would have wanted to be sure that the system would solve the serious information problems he had just experienced. His failure to ask such questions indicates that that he had not placed much importance on the system when he instructed Colton to work on it or since then.

All of this was fresh in Warner's memory when Colton, O'Brien, and Richards went in to meet him. Colton started with a brief summary of his activities since September when Warner had given him a personal "go ahead." He then stated that there were three things that the system would accomplish; it would yield a systematic file of information, a method to monitor the activies of the acquistion and disposition process, and make meaningful program planning and evaluation possible. Colton started to describe the five step process of implementation -- collecting initial data, writing computer programs and putting the data on magnetic tape, producing the first set of reports, updating the information in these reports, and producing new reports. The last two

steps would be repeated on a regular basis. Warner interrupted Colton before he could finish to ask some questions, particularly about the flowchart (Figure 2A), and then showed Colton a memo he had written to department heads designating Elliot Friedman as Warner's administrative assistant. One of Friedman's jobs was to put together a monthly summary report of the activities in each project. Friedman was to work on this in conjunction with David Weiner, who had previously been designated Coordinator of All Projects. Warner felt that Friedman should be the one to handle the system in the front office particularly now that McGinness was gone. Warner called Friedman and had him come into the meeting. Colton quickly reviewed for Friedman what had already been said, and then they continued with Warner's questions which included some reference to costs. Colton mentioned the numbers $1000. to $2000. to set up a prototype and get some outputs. Warner questioned where he could get this money, and Colton responded that O'Brien felt it could come out of the "All Projects" section of the budget and that George Niles, the Budget Officer, had agreed with this opinion. Warner then said that a meeting should be scheduled with all department heads and the project directors of the larger projects. He asked for a copy of the proposal and then closed the meeting with the statement that if this was the only thing he did while he was director, meaning establishing a systematic way to handle and use information, he would have accomplished something worthwhile. After the meeting, O'Brien, who had met with Warner on many matters, said that Warner reacted more favorably to Colton's proposal than to anything else O'Brien had ever seen him react or respond to.

The large meeting was scheduled for Wednesday, January 21, and Colton and Richards set about preparing for it. Copies of the proposal were prepared and delivered to each person who was to attend the meeting. A large graphic representation of the five step implementation process was prepared. Also, a one page list of what the costs associated with this implementation process was prepared. Colton and Richards wanted not only a commitment to the system in general but a commitment that the necessary resources would be provided. This list included a contract with a consultant for technical programming assistance, temporary assisgnment of extra personnel for the initial data collection effort, and a strong commitment from the Director to use whatever power necessary to overcome any staff problems which might develop.

Colton also set up appointments before the meeting with all the people who were to attend to discuss the system with them, answer their questions, review what the meeting was for, and generally build support for the system. Arrangements were made for Clay Hall to attend the meeting and bring samples of the computer outputs from the rehabilitation system he had developed. These would give the other people something concrete to relate to.

One of the people Colton met with was James Drought. When Don McGinness had left in December, leaving Colton and Chard without anyone to whom they were directly responsible, Colton had spoken with Drought about the problem, and Drought had suggested Colton and Richards work for him directly while remaining part of the Research Department. (Technically, all the employees in the Research Department worked for

Drought since he was O'Brien's direct superior, but Drought was suggesting a working relationship between himself and Colton and Richards rather than just a bureaucratic one.) This idea had seemed very appealing to Colton. Drought had always been very sympathetic to Colton's efforts and had supported them whole-heartedly, as had Tom O'Brien. Although Drought had questioned Colton's time estimates, he had never questioned his competence. Drought commanded considerable respect throughout the Authority and had considerable influence with Warner. Colton and Richards felt that he would be very helpful in solving bureaucratic problems within the Authority. He also could make considerable use of summary information which could be produced by the system. By designing reports to help him, Colton and Richards could be sure that there would always be top level support for the system. Colton's purpose in meeting with Drought at this time was to confirm this working arrangement.

The meeting was scheduled for 4:15 on Wednesday. Everyone except the Director was there on time. This included O'Brien, Colton, Richards, Hall, Drought, Administrator for Staff Services; Friedman, Weiner, Terry Farrell, recently appointed Director of Residential Development; George Niles, Budget Officer; Wally Orpin, Director of Engineering; William Haynesworth, Director of Nonresidential Development; Bob Walsh, South End Project Director; and Walter Smart, Director of Social Services. Robert McGovern, Director of Real Estate, was the only top-level person who would be directly involved with the project who was not there. Warner finally came in and opened by saying that

the meeting which had just finished and delayed this meeting for 30 minutes was a perfect example of the need for a system such as the D.I.R.S. He also repeated his statement that establishment of this system alone would be a satisfying accomplishment as Director.

Tom O'Brien then took control of the meeting and passed it on to Colton who reviewed the five step process of implementation. At this point, Warner got up to leave for a meeting with Mayor White. Richards assumed control of the meeting while Colton conferred with Warner as to whether a decision had been reached. Warner said that the decision to go ahead with the project had been made by himself at the Friday meeting. After he left, Colton returned to discuss various problems related to the system. These included guaranteeing the validity of information the system, getting the system "used", once it was implemented rather than just keeping it alive, collecting the initial mass of data, and assigning people in each department to work on the initial data collection process and be responsible for inputting new data from that department on a regular basis. Hall then quickly described the rehabilitation system. O'Brien closed the meeting with the comment that most of these efforts failed the first time and that he estimated the chances for success at this point around 20%. Colton felt that it was no higher than 40%. After the meeting, when Warner returned from his meeting with the Mayor, Colton gave him the one page list of costs which included a five thousand dollar contract to provide technical assistance for both this system and the rehabilitation system. Warner said that he would study it, but that he didn't expect there would be any problems.

Tnis meeting and the events which led to it should be carefully noted because they were a major milestone in the development of the Development Information and Reporting System. This was the first time that all of the people at the meeting had received any direct, personal indication from Warner that he supported the system. All of them came to the meeting aware of the "December Panic" and the problems they had had supplying the information required by Warner. They also came to the meeting with at least a cursory knowledge of the system thanks to the meetings which Colton had had with each one and the earlier meetings with Colton and Chard.

Although Warner told them that the system would be established, without considering their opinions, his decision did not create the strong negative responses on their part that it migh have. Because Colton and Chard had successfully involved them with the design process the decision was more a ratification of what they had done rather than a unilateral demand that they do something new and different.

It also should be noted that the only person who would eventually cause any serious problems for Colton and Richards; Robert McGovern, the Director of Real Estate, was not at the meeting and did not personally observe this ratification. He was also the only person in the position of department director who Colton and Chard had not worked with. He always referred them and their questions to his assistant, Pat Twohig, who was not at the meeting.

On Monday, January 26, there was a meeting in the South End. Colton and Richards had decided in discussions with O'Brien and Drought that the next step should be to set up a prototype of the system using a few disposition parcels in the South End and their component acquisition parcels for sample data. This meeting was to meet the South End staff whom Colton and Richards would have to work with in this effort, explain the system to them in very general terms, and set up a tentative schedule. At the meeting were Robert Walsh, Project Director; Roger Green, his assistant in charge of acquisition; Marvin Hightower, who was Public Information Officer for the project; Mary Chapman, who had been working for several months in the South End on the rehabilitation system and who was going to be working part time on this effort; and Charles Adams, who was in charge of the Property Management Section in the site office. The first steps proposed were the selection of sample disposition parcels, determination of the acquisition parcels which composed them, and review of the whole acquisition process to be sure Colton and Richards completely understood it.

After Walsh, Green, Colton and Richards chose eight sample disposition parcels (four residential, two nonresidential, and two public buildings), Mary Chapman took responsibility for identifying the component acquisition parcels and gathering basic descriptive data about them. Colton set to work reviewing the acquisition process, and Richards concentrated on starting the technical design of the system.

Colton's effort involved lengthy interviews with Green, Adams, and three members of Adams' staff: Al Rizzo, Dick Kelly and Jeanne Mulvihill, who was the Records Secretary in the Property Management Section. After these investigations Colton concluded that his earlier hypothesis that a system for acquisition parcels would provide the necessary aggregate information for the personnel involved with the disposition process had been correct. The records in the Property Management Section contained information about occupied and vacant units, rent levels, building characteristics, and parcel use. By aggregating this information, problems in coordinating the acquisition process with the disposition process would be identified long before they became serious. At this time Colton expected this aggregation would be done manually.

Meanwhile, Richards had been working on the technical design process. Immediately after the January 23 meeting, Hall had written a contract to be signed with C. M. Leinwand Associates, a consulting firm which Hall had been working with for technical assistance on the rehabilitation system. This contract was to be for $5000.00: $3,500.00 for the rehabilitation system and $1,500.00 for technical assistance on the Development Information and Reporting System. Leinwand Associates was marketing a 'package' reporting system, PRESS (Puerto Rico Educational Statistical System), which someone familiar with computers could learn to use in only a few hours. This system allowed inputting data to a tape file and writing reports from it in a very flexible manner. Robert Hanson, who O'Brien had hired in September,

1969, to assist him with the technical aspect of converting the Boston Assessing Department to a computerized operation, advised strongly against using PRESS. However, for the sake of simplicity, O'Brien, Colton, and Richards decided to go ahead with the contract. A single, joint, contract meant that O'Brien and Warner would only have to request the B.R.A. Board to approve one contract. This was highly desirable because of the difficulty in explaining technical details to the Board members and gaining their approval for something they didn't really understand.

When the contract was submitted for approval, the deciding factor was the source of funds not its purpose. Initially, the Board members thought the $5,000.00 would have to come from city funds and they tabled the request. Hall quickly found Niles, the Budget Officer, and confirmed his belief that the contract would actually be paid with federal funds. When the Board was informed of this, the contract was approved without further discussion. This was not the result of unanimous support, but indifference to anything except the source of funds. Had a second contract been submitted for what might well have appeared to the Board to be identical services, it very possibly might not have been approved.

Richards spent February and March familiarizing himself with the PRESS system, deciding just exactly what data would be on the files, and starting to collect this data. To learn the exact characteristics and source of each piece of data he decided to collect a considerable amount of data before defining the files precisely. Pat Crowe, who

was working for Hall, was assigned nearly full time in March to assist Richards with this effort. They first transcribed a considerable amount of data from the primary document of the Property Management section in the South End Site Office, the Structure Control Card. There was one page or "card" for each building or piece of vacant land the Authority owned. On it was a brief description of the building, if there was one, and a list of all tenants who were living in the building or had lived in the building while the Authority had owned it. From this record Richards and Crowe were able to determine the number of residential and nonresidential units which were occupied and vacant, the maximum monthly gross rent produced by each building, and a description of the building. Using the list prepared by Mary Chapman containing the acquisition parcels which consituted the 'sample' disposition parcels they recorded this information for all the sample acquisition parcels.

They then moved to the Real Estate Department in City Hall. Here they collected financial information and additional descriptive information about each of the sample acquisition parcels. Before they could do this, they had to receive permission from Robert McGovern, who was head of the Real Estate Department, to use the files in his office. Although Colton and Richards had talked to Pat Twohig, McGovern's assistant, several times about the system and she had been quite friendly and helpful, when they started talking about actually copying information out of the Real Estate Department files, she said permission would have to come from McGovern to do this. She

informed them that a memo from someone such as Drought would be the best way to gain this permission. Colton then described the situation to Drought and wrote a memo for Drought to take to McGovern. Drought took the memo to McGovern, explained the purpose and need for the system to him, and received the necessary permission.

Colton and Richards met with McGovern early in March to outline specifically what information they wanted to collect and why. McGovern gave his approval, and Richards and Crowe started the collection effort the next day. That afternoon McGovern requested that Colton and Richards meet with him to review what they were doing and why. They did this, almost precisely as they had the day before and mentioned that one or two other people besides themselves might be involved in the data collection process. McGovern quickly asked who they were. Once the identity of all persons who were going to be going through the files in his office was established, he repeated his approval of the activity. The data which Richards and Crowe subsequently collected included owners's name and address, acquisition cost, date of acquisition, appraised and assessed values, and detailed building description.

While Richards was involved with this effort, Colton had started a detailed, written documentation of the acquisition process. Hanson had been strongly urging O'Brien to require this of Colton and Richards. O'Brien had responded by requesting them to produce such documentation. In order to allow Richards to complete the data collection effort as soon as possible, Colton had assumed full

responsibility for the documentation.

The data collection, detailed systems analysis of the acquisition process, and the production of documentation was not completed until the end of March, 1970. By this time two related problems had become very obvious. Maintaining the information, whose source was the Property Management section in the South End, was going to be very difficult. And even if the difficulty was overcome it would require considerable time and effort on the part of the staff of the Property Management section. This was in direct opposition to Colton's and Richards' commitment that the system would save staff time and information would be easily maintained. Since the information coming from the Property Management Section (number of buildings and units still occupied) was very important to the system, Colton and Richards felt it imperative that they come up with a solution to the problem.

They decided that the Structure Control Card system itself should be computerized. This approach had several advantages. The automated Structure Control Cards would require little or no more effort to maintain than the old ones. They would be much more legible. Many of the monthly lists produced by hand could be produced by machine resulting in a considerable savings of staff time. Other pieces of information which were not on the old Structure Control card and were of interest to the Property Management section, could be printed out on the new Structure Control Card. These included the disposition date, the address and phone number of the former owner, and the

disposition parcel number of the disposition parcel of which the acquisition parcel was a part.

Colton and Richards proposed this idea to Charles Adams and his staff. They were skeptical that any such major change could be made successfully, but they were willing to try it so long as they could reject the new system at any time.

This new expansion of the system, and the necessary system design, required further analysis of the Property Management Section. It also required new forms to collect the additional information about each tenant and time to collect this information. Richards and Crowe completed these tasks by the end of April. Information from the Business Relocation and Engineering Departments also was obtained in list form, and this information was transcribed onto special forms.

The Family Relocation Department did not keep its records on the basis of B.R.A. Block and Parcel Numbers as the other departments involved with the acquisition process did. Consequently, there was no way at this time to include Family Relocation costs since Block and Parcel Number had been chosen as the basis of the acquisition file system. The progress and delays of the family relocation process could be monitored through the Structure Control Card subsystem, however. The number of residential units still occupied on each acquisition parcel could easily be determined from the information in this subsystem.

By the end of April, Colton had investigated the operations of the Property Management section of the South End Site Office thoroughly enough to understand how information flowed through it, particularly the information on the Structure Control Card. The next step was to write programs to create a tape file for acquisition and disposition parcels and produce reports from these tape files. During late April, all of May, and early June, Richards worked almost exclusively on this task. He had periodic consultations with Leinwand to solve specific programming problems but was able to do most of the programming using the PRESS manual and frequent telephone calls to Leinwand. Crowe spent approximately half her time during May on programming also.

Early in June, Richards and Leinwand started testing these programs which Colton rewrote the documentation. The program testing was done at a service bureau in the suburban Boston area. The machine used was an I.B.M. model 360/50. About this time Colton authorized payment of approximately $500.00 to Leinwand for his consulting time. This was the first money spent on the system except for Colton's, Chard's, and Richards' salaries. Using computer time between midnight and 8 a.m. and on weekends (the least expensive periods) Richards and Leinwand succeeded in getting four report programs to work with data from the sample parcels.

In June, Eugene Ferris, a student at Boston College who would start his senior year in September, started work with Colton and Richards. His first assignment was to transcribe the data on the forms which

Richards and Crowe had filled out onto 80 column sheets to be keypunched. When this was done, the data for approximately fifty of the acquisition parcels, which composed two of the eight sample disposition parcels, was put on tape and outputted in the two reports, the Structure Control Card and the Project Director's Report. The Structure Control Card had been designed to look very similar to the form which the Property Management section in the South End had been using. The Project Director's Report had been designed in consultation with Walsh and Green and contained the items of information about an acquisition parcel which they felt most useful.

The information about the two corresponding disposition parcels was also transferred to magnetic tape and outputted in two reports, the Disposition Parcel Descriptive Report and the Disposition Parcel Scheduling Report. These two reports contained, with few exceptions, the information which Colton and Chard had selected back in December on the basis of their research during the fall. The descriptive report contained the names of all people associated with the development, a physical and financial description of the planned development, and a summary of the status of the acquisition parcels which composed the disposition parcel. The scheduling report contained the actual and estimated dates for all of the major steps in the development process. These steps had been determined from the flowcharts Colton had produced (Figures 2A and 2B).

Although all the data from all the sample parcels was not used in the prototype programs, the collection of the data had not been in vain. Only after collecting a considerable amount of data could a technical system be designed which could handle all the data in many forms and sizes that existed. Included in this was determining what data was alphabetic and what data was numeric, and what the maximum number of characters or digits in each piece of data was. Also the time necessary to collect that data and the necessity of transcribing it to 80 column coding sheets was instructive. Colton and Richards were convinced that the final system would have to avoid the transcription process; it would have to be possible to keypunch the information directly from the paper on which the data was written the first time. They also had a much better idea of the amount of personnel time which would be required to transfer all the data from the old Structure Control Cards and the Real Estate files when the time came to implement the system for the whole South End and eventually the whole Authority.

Colton and Richards had originally hoped to produce more reports using the prototype system. They had wanted to produce outputs for nonresidential disposition parcels which had a different format and contained somewhat different information which was pertinent to non-residential parcels. They had also wanted to produce a project summary report which contained on one page a summary description of a whole urban renewal project such as the South End. Because of the delays in getting the other four reports produced, the fact that Leinwand had already spent much more than $1,500.00 worth of time on the project,

and the fact that $1,800.00 of computer time had already been used, they decided to drop these other reports as far as the prototype system was concerned.

On July 6, Colton and Richards decided to rewrite the proposal and system description they had written in January to include the new reports and describe the system as they now proposed it. The most important part of the rewriting process lay in the description of the acquisition parcel file and the reports that would be regularly produced from it, the Structure Control Card and the Project Director's Report. For this new description of the system they 'mocked up' descriptive and scheduling reports for nonresidential parcels and a project summary report. They did this using a typewriter with type face which was identical to that on a computer printer. This way the reports all appeared to be part of an integrated system, as they would be when the system was operational.

This new description of the system (Document 4) was finished on July 14, 1970, and at that time Colton and Richards began a round of interviews with most of the people who had been at the January meeting and some new employees of the Authority. They discussed the system with these people using the new description and told them that the next step was to gain support for the system which would be necessary to get a contract approved to retain a consultant firm to do the programming and then get the contract approved using this support. On the whole, everyone who they talked to was favorably impressed. Some were more excited than others about the system; these included

Walsh, South End Project Director; Charles Speliotis; a lawyer in the Residential Development Department, Drought, and O'Brien.

While these meetings were being held, primarily by Colton, Richards spent most of his time writing a technical Request for Proposals (R.F.P.). The work on the prototype had shown that PRESS was not able to handle all the demands which the system would put on it; contrary to what Colton and Richards had originally been told. This was true for two reasons. PRESS simply could not do everything Leinwand had said it could do since PRESS had not been thoroughly debugged. The other reason was that when Colton and Richards had originally described the proposed system to Leinwand they described it as a simpler system than ultimately resulted and in very general terms. In short, Leinwand didn't know exactly what PRESS could and couldn't do, and Colton and Richards didn't exactly know what they wanted it to do. Because of these problems and the dissatisfaction of O'Brien and Hanson with the performance of Leinwand it was agreed that a request for proposal should be issued to various data processing consultants who had worked for the Authority including Leinwand. Although this wasn't a formal bid, (there was no guarantee that a contract would be signed with the low bidder or with anyone at all) it would allow the selection of the best proposal for the money. Colton and Richards reviewed this strategy with Drought, and he agreed with it.

The R.F.P. was completed July 27, 1971. Four contractors were invited to meet with Richards and Colton on Wednesday, July 29, 1971.

In a one and one half hour session the R.F.P. was reviewed and questions were answered. Responses to the request were later received from three of the contractors. Richards, Colton, and Hanson reviewed the responses and concluded that the lowest priced proposal was the most desirable. This was the proposal of Keane Associates, Inc., to do the job for $11,800.00.

The contract was submitted to the B.R.A. Board for approval on Thursday, August 13, 1970. Warner spoke strongly in favor of the system although his description of the system and the source of funds was not particularly accurate. Before the Board meeting, Drought had spoken to Kane Simonian, the Executive Director of the Authority, who had considerable influence with two key Board members even though he didn't vote himself, impressing on him the importance of the system and approval of the contract. At the Board meeting, John Conley, the General Counsel, commented briefly but favorably on the concept and need for the system. There was some rather disorganized discussion of the system and contract and then the contract was passed. Once again the source of funds was a crucial subject. Warner told the Board that the money would come from the Community Renewal Program which had considerable funds. With this assurance the Board approved the request for authorization to sign the contract. The money actually came from the "All Projects" budget, however.

The Board had now authorized the expenditure of over $13,000 for the system, but none of the members understood the system nor the situations which had produced the need for it. This is important

to note. Many public agencies have a body such as this which supervises the expenditure of public money. Many of them have very little interest in exactly how the agency operates internally so long as fraud does not occur and the agency is moderately productive.

This was the case at the B.R.A., and it had considerable importance for the implementation of the system. Even though the Director could not appropriate the necessary funds unilaterally his favorable statements to the Board that the system would greatly improve the efficiency of the Authority were sufficient to gain approval of the two contracts, since the money was available for them. This was true despite the fact that Warner never had a very good relationship with the Board. It almost surely would not have been true if it had been necessary to withdraw money from operating budgets, thereby decreasing the output of the Authority in order to make these internal procedural changes. Although Warner's support was necessary and sufficient for approval given the financial situation that existed at the time it might not have been sufficient at another time. Indeed, at another time it might have been impossible to gain Board support no matter how good the system's design was.

Two weeks after the contract was approved O'Brien left the B.R.A. to become a White House Fellow assigned to H.U.D. He was replaced as Director of Research by Alexander Ganz, a member of the faculty of the

Department of Urban Studies and Planning at M.I.T. Ganz had been working for the Authority as a private consultant since April, 1970. During this time, he had become familiar with the D.I.R.S. project and was strongly in favor of continuing it.

By the first of September, Colton and Richards had made a final review of the system, and personnel from Keane Associates had started work. Richards acted as project manager and conferred with the Keane personnel daily. Ferris spent August and early September compiling a complete list of disposition parcels and their component acquisition parcels in the South End. After doing this tedious chore which surprisingly hadn't been done since the original 1965 plan had been written, he moved to the Property Management office in the South End Site Office and started coding all of the data on their Structure Control Card books. He was assisted on this task by Dave Webster, a co-op student at Northeastern University who was working for the Authority for three months in the Xerox room but was transferred to the project for a month to assist with this data collection effort. Richards also spent 10-15 hours per week in the South End during October collecting the Property Management data. This was about half of his total time at the Authority per week since he was carrying a full load of courses at M.I.T., as he had been up until June. Colton also spent time with the Keane personnel answering their questions. He also handled most of the administrative matters associated with the project during September and October.

The programming effort by Keane took longer than expected. All of the programs were not completed and tested until the middle of December. During November and early December, Richards spent most of his time assisting Keane personnel with technical problems and answering their questions. Early in November the Keane personnel had started testing the program on the City of Boston's IBM 360/25, and Richards had responsibility for procuring time. He also had responsibility for getting all programs and all data keypunched by city staff or by private keypunching services. He coded test data for acquisition and disposition parcels and reviewed the outputs from the report programs to be sure the data was correct and printed in the proper place. As program documentation and operation manuals were written by the Keane personnel Richards reviewed them, had them typed, and proof-read them.

Finally, in early December, the Structure Control Card Report was produced in its entirity. Since all the data had been collected in September and October it was necessary to compare every page (over 1000) with the old manually updated Structure Control Cards. This task required the whole month of January and was performed by John Donovan, a co-op student at Northeastern University who started a three month period of work for the Authority in the middle of December. Donovan was the first person to work on the system, besides Colton and Richards, who had had previous experience with computers.

In mid-January Colton and Richards took the first copy of the Project Director's Report to Walsh in the South End Site Office.

After showing it to Walsh; Homer Russell, his assistant for disposition parcels, and Roger Green; his assistant for acquisition parcels, Richards spent an hour with Green teaching him how to fill in the information for which he was responsible using the update form which was designed for this purpose. Richards also explained how the Project Director's Report, which contained a page's worth of information for each acquisition parcel, could be of particular use to Green in his work of supervising the acquisition process. Green recognized the benefits the system provided and has been filling out the update forms regularly.

By Feburary 15th, Donovan had finished coding the corrections to the Structure Control Card. He had several suggestions to change the input forms which were to be used by the Property Management personnel. Richards incorporated these ideas in new forms which he was designing. In early March the Structure Control Card was produced with all the corrections coded by Donovan. Richards and Donovan immediately took this report to the South End and spent four full days comparing the computer outputs with the old books. Corrections were both coded and written directly into the computer outputs. On Friday, March 12, Richards and Donovan turned the corrected Structure Control Card books over to Dick Kelly of the Property Management section. They spent an hour and a half reviewing items which had been discussed in previous meetings and going over, in detail, the procedures for filling out the update forms.

One problem was noted by Kelly and Al Rizzo, another member of the Property Management section who used the Structure Control Cards constantly as a source of information even though he wasn't responsible for maintaining the information. They noted that if the corrections were only written on the update forms the information might not appear in the book until as long as a month later. (In the early design stages it was decided that the rate of change of information in the Authority only warranted a monthly update and report cycle, rather than a biweekly or weekly cycle.) If the corrections were also written in the books it would require writing the information twice, once on the update form and once on the report. It would also make it very difficult for Kelly or Rizzo or anyone else in the site office to check to see that all the updates and corrections had been successfully made and appeared on the new reports when they received them. To do this they would have to look at every page on the old report to see if any corrections had been written in and when a correction was spotted find the corresponding page on the new report to verify the successful transaction. (Richards, or whoever might be in charge of the system in the future, could determine this from the file maintenance report produced at the time that the transactions are made against the tape file, but this wouldn't be too useful if operating personnel such as Kelly and Rizzo wanted to see for themselves that what they had coded had actually come out on the new reports.) Donovan suggested that new forms he designed and printed on 'NCR impact' paper (carbonless carbon) in sets of two and be bound in a loose leaf

notebook. The original would be left in the notebook and the copy would be paper clipped to the page it was correcting or updating. Once a month the originals would be picked up and keypunched. When the new report arrived the pages which had forms paper clipped to them could be spotted easily. The corresponding page on the new report could be found and the success of the transaction verified. Those transactions which had been coded since the others were picked up could easily be transferred to the new report. Donovan designed the new forms. They were printed and delivered to the South End on March 29, 1971. Since then this system has worked to the complete satisfaction of all involved.

Late in Feburary the first disposition parcel reports were produced. Colton had assembled a list of all disposition parcels and their locations. This data was entered and the reports were produced with just this information. Homer Russell, Walsh's assistant for disposition parcels then filled in a considerable amount of the descriptive data, particularly about residential parcels. The first Disposition Parcel Descriptive Report with appreciable amounts of data was produced in mid-April. Ken English, an employee working on the nearly completed Government Center project, collected the remaining information for the Disposition Parcel

Descriptive Report and the readily available dates for the Disposition Parcel Scheduling Report. Both of these reports were operational for the South End by the end of the first week in May.

As the system had come closer to reality, Colton and Richards began to think seriously about what it would need to insure permanence. They both felt that a minimum of one person would always have to be responsible for the operation of the system. This person could also have responsibility for the rehabilitation system when it became operational on the city computer. Ideally, this person would be competent to operate the city computer and modify the programs or write new ones as the need developed. Colton and Richards expressed this opinion to Drought in November and December as a definite need. He concurred with their opinion but was pessimistic. Ever since H.U.D. had informed Warner that federal funding of the B.R.A. would drastically decrease, Warner had followed a no-hire, no-fire personnel policy. Lately, he had been adhering very closely to this policy.

Just before Christmas, Warner announced his resignation, effective in early January. This made approaching him about hiring a programmer pointless. This matter had to be delayed even longer, until the new Director, Robert Kenney, got established and familiar with the B.R.A. as a whole and the D.I.R.S. particularly. Not until March was this opportunity afforded. Drought arranged a meeting with Kenney and gave him an 8 page description of the system which included potential benefits of the system and the costs of achieving them, in particular, hiring a programmer. Drought, Colton, Richards and Ganz were at the meeting. After quick introductions by Drought, Colton gave a brief historical summary of the system and an overview of

its operation. Richards then showed Kenney each report, starting with the Structure Control Card, and working up to the Project Profile Report and the Disposition Parcel Summary Report. Kenney was very impressed with the system, asked who much it had cost, and when he was told less than $20,000.00 exclusive of Authority personnel salaries (Colton, Richards, Ferris, Donovan, etc.) he responded that had his previous employer, Price, Waterhouse and Co., done the job they probably would have charged $200,000.00. At this point Kenney asked what was required to implement the system in other projects. Colton referred Kenney to the list of costs and mentioned first the need for a programmer. Kenney quickly responded that someone presently employed by the Authority should be trained for this job. Colton emphasized that this would take a long period of time, probably at least 6 months, and that during that time many of the system's potential benefits would have to go unrealized. These benefits included major savings of personnel time in producing lists and doing calculations necessary for quarterly reports required by H.U.D.

Colton's comments and similar ones made after the meeting by Drought were to no avail. The request by Richards and Colton that Donovan be hired on a part-time basis when he returned to school in late March also was refused. The fact that Donovan was very familiar with computers and this particular system apparently did not warrant spending a maximum of $55.00 per week to pay Donovan for

20 hours of work. This aggravated Richards and Colton quite considerably, particularly since Ferris had not been able to work at the Authority since the first of the year and did not expect to be able to work at all in the future due to pressures at school.

Unfortunately, the only possible response for Colton and Richards was to look for someone to be transferred from another department into their operation. Several weeks before this, Ganz had been talking to Howard Bennett, head of the mapping and graphics section, about personnel, and Bennett had mentioned that he had some 'extra' personnel who might be interested in transfering into Research. After the negative decisions on a programmer and Donovan, Ganz consulted with Bennett and found that one of his staff, Elizabeth Whitelaw, was interested in transfering to Research. After meeting with Colton, Richards, Hanson, and Ganz, Whitelaw decided that she was interested in the job they had offered - becoming a COBOL programmer and eventually assuming operational responsibility for the Development Information and Reporting System. They felt that she was likely to succeed at it. She was officially transferred to the Research Department on March 29, and began her training under the supervision of Hanson and Richards.

The system, as of May 1, 1970, was a proven product in the South End. At that time all of the reports were being produced regularly and the information contained in them was accurate except for some data not yet acquired from the Real Estate Department. The opportunity to use the system as a scheduling tool, for both the

acquisition and disposition process had not as yet been exercised, and Richards viewed his next job to be demonstrating to Walsh and Green in the South End and Fitzgerald and Twohig at City Hall how to use the system as a scheduling tool for the acquisition process and to Sandy and Speleotis in City Hall how to use it as a scheduling tool for the disposition process.

Richards also was preparing to supervise the expansion of the system to the other major projects starting in mid-June. In March, Kenney had requested that this be done as soon as possible, but Richards and Colton had responded that it would be impossible without immediately hiring a programmer who could assume much of Richards' regular operational responsibilities for the system, freeing him to supervise the data collection and training processes in the other projects. Because a programmer was not hired, Richards and Colton said that expansion to other projects would have to be delayed until a current employee was trained to assume these responsibilities and Richards had finished his thesis. Richards expected both of these conditions to have been satisfied by mid-June.

Warner's departure and his being replaced by Kenney probably was fortuitous for the success of the system. Colton and Richards never were sure that Warner fully understood the system. They also were not confident that Warner would use the system well. Although he had provided the support to keep the project going when it was

needed, it was very questionable whether he would grant the request to hire a full time, trained programmer. Kenney on the other hand quickly grasped the concepts of the system, and Colton and Richards felt that he would use it wisely. The fact that he was unwilling to hire a programmer did not mean that he was unwilling to support the system. Small but significant comments, which he made to Richards and Hanson after the March meeting and his continual interest in the progress of the system indicated that he had a basic interest in the system and would support it strongly in the future. Without this timely but uncontrolled change of directors the system might well have almost, but not quite, succeeded.

IV. ANALYSIS OF THE CASE

The design and implementation of the Development Information and Reporting System was a long process, but, to date, it appears to have been successful. Although I can't make comparisons with other cases, because I am not nearly so familiar with any other specific cases, I can point out several factors in the process which I think were instrumental in its apparent success.

There are two aspects which were of major importance. One of these was the importance placed on the user of the system at all levels by Colton, Chard, and myself. The other was the fact that the system was proposed and pushed from the 'bottom' of the bureaucracy.

Immediately after Colton made his proposal to Champion in 1969 and received support from Warner, he and Chard set about understanding the whole redevelopment process, not just the part that top level management was concerned about. They investigated all aspects of the process and levels of responsibility and examined the information needs of all people involved with the process.

This approach had several favorable consequences. It yielded an excellent working knowledge of the redevelopment process before any parts of the information system were specifically designed. When the system was specifically designed it was done by an iterative process. Determination of which personnel would receive reports was made on the basis of initial knowledge, and, as the knowledge increased, the recipients of the reports, and their contents, changed. Colton and Chard

proposed one set of reports, containing certain information, at the end of 1969 (Document 3). This proposal did not include any reports directly related to acquisition parcels, but the reports did contain summary information about acquisition parcels. As Colton and Richards worked on designing the prototype they revised the number and nature of the reports.

This process first yielded the Project Director's Report. Through conversation with Walsh, the South End Project Director and his staff, Colton determined what information should be on this report. Colton and I showed a sample to Walsh and his staff and they suggested some information be dropped and a few other items added. We emphasized the fact that this was something for them to use and that they had an opportunity to make it maximally useful to themselves. Neither the report nor the system as a whole were presented as an inflexible dictum of top level management.

Similarly, when it became obvious that the aggregate information about acquisition parcels necessary for both the Project Director's Report and the Disposition Parcel Descriptive Report could only be obtained from the Property Management Section, the system was presented to that section as a useful tool. Colton did not present them with a management ultimatum that they would have to provide the information in an aggregate form to be inputted to the system directly. Rather, he investigated how the information could be obtained, determined that only be automating the Structure Control Card could the information be acquired without requiring

considerable extra staff time to aggregate data manually, and then carefully proposed to the Property Management Section a system whereby their records could be standardized, made more reliable, and their jobs made less burdensome. When they expressed interest in this proposal, we set about working with them to design the report to be most useful to them as well as serving our needs which were to get information which could be outputted in aggregate form on other reports. In this case, unlike all the other reports, there was a specific format to use as a starting point. But rather than merely duplicate their old Structure Control Card we worked with them to add pieces of information to the report which were useful to them but which they had never had easy access to before. These included the disposition parcel number and the title transfer date of the disposition parcel of which the acquisition parcel was part (Document 5).

Finally, there was one format agreed to for the prototype, in the summer of 1970. The outputs of the prototype were then reviewed with the Property Management personnel and their reactions, along with the suggestions of the Keane personnel, were incorporated in the final format. In late October 1970, the Property Management personnel decided that they didn't want pages for parcels and buildings we hadn't acquired yet, as they had originally preferred, and we had the program modified to accommodate this request.

We developed the other reports in a similar fashion; always approaching the potential user with a proposed format and content and eliciting criticisms and suggestions. The fact that the report was

something to be useful to them, not an added burden, always resulted in suggestions. Robert Sandy, a lawyer in the Residential Development Department, suggested we add the telephone numbers of the members of the 'development team' to the Disposition Parcel Descriptive Report (Documents 8A and 8B). He also pointed out a potential problem with the Disposition Parcel Scheduling Report which we had overlooked. The F.H.A. had recently instituted a new processing procedure for some large residential developments which eliminated one of the steps in the F.H.A. process as we had laid it out on the report. Keane personnel and I then designed a simple method to avoid the problem of the report indicating that a step had been left out when actually it hadn't.

The same approach has been used in designing the input forms. Each form was drawn so as to require a minimum amount of effort on the part of the person filling out the form and the keypuncher keypunching it. The forms used by the Property Management personnel have been redesigned twice in response to problems and suggestions voiced by them. The form used by Roger Green of Walsh's staff in the South End to update certain items on the Project Director's Report has also been redesigned once already.

This overall concern with the user, at all levels, grew from several sources. Colton, Chard and I, all were familiar with the antagonism that computers had produced in people in situations where the users did not understand computers or were forced to

interact with poorly designed or operated systems. We knew that such experience at the B.R.A. would have serious long range consequences not only for computer usage, which none of us was personally involved with in and of itself, but also for efficient systematic administration of urban renewal and city planning in Boston and perhaps in other places as well.

Colton also came to feel the necessity of this approach as a result of his conversations with people in New York who were involved with the implementation of the information system in the Housing Development Administration in New York City. He got the distinct impression that the New York system, which was designed by outside consultants, had been designed by a process which involved minimal contact with the user, particularly the lower level people who inputted the data. It appeared that the top level management personnel in the H.D.A. had given the consultants a list of items of information which the management personnel wanted on a regular basis and the task of finding some place to have that information inputted on a regular basis. There were no lower level subsystems, and inputting the data as management required had no benefits to the people inputting it except compliance with management directives. Many of these people who inputted the data had little or no understanding of the information system or what the data they provided was used for. Insuring that all the data was inputted quickly and accurately was

already becoming a problem, a problem which Colton wanted no part of.

A third reason for the approach we used was related to our personal feelings about information and the operation of public agencies. Both Kent and I felt that most employees of an agency such as the B.R.A. want to perform their jobs well. However, most of them, particularly those at the operating level, are not paid well enough to induce them to try to overcome the obstacles to good performance which are usually found in public bureaucracies. Nor are they motivated by fear of losing their job since usually they can be dismissed only for gross incompetence or some reprehensible personal act. Since there seems to be little chance of improving the pay or decreasing these people's security, even if one wanted to make either of these changes, the only remaining avenue to improving performance is removal of these bureaucratic obstacles.

One of these obstacles is the inadequacy of information in many offices. Few filing systems are designed efficiently to handle the varieties of information they are eventually burdened with. Few forms or reports are designed to be unambigious and easily completed. Colton and I felt that neither we nor the management of the B.R.A. could afford to create more bureaucratic obstacles without overwhelming justification and that we should make every effort to avoid doing so. We also felt that where ever an opportunity to improve the reliability or completeness of information used or needed by operating personnel presented itself, we should investigate it carefully to determine the costs and benefits of

taking advantage of it. Such an opportunity presented itself in the Family Relocation Department, but we decided after careful examination that it would take a considerable amount of time to design a subsystem for that department and that this would cause a serious delay in implementing the system which would not be offset by the advantages gained. We came to different conclusions regarding the Project Director's Report and the Structure Control Card Report and spent a considerable amount of time developing them.

This general approach and attitude appears to have been beneficial. The Structure Control Card Report was adopted by the Property Management Section completely as soon as we had checked the computer outputs with their old books and verified that the computer-produced reports corresponded completely to their old books. They have been updating this report since then and have placed their old books in storage. In short, they have switched to the new system quickly and completely. They have already suggested additional listings which would help them and modifications that could be made in the future to make the system even more useful. They have also suggested minor modifications in procedure to make the system more useful as it presently exists. These facts indicate that they understand how the system relates to their operations and consider it very useful to them; the approach used certainly was not in error, although it surely was not perfect.

Directly related to this approach was the relation of top level management to the system as a whole. In no sense was this project constantly pushed by any of the directors or other top level personnel. We were never required to produce a schedule or file progress reports. We were never required to meet any deadlines. Whatever schedules there were, were produced by us; the few deadlines which were set, were set by us and revised by us. Descriptions of the system were produced only as we felt necessary. We were not closely monitored nor were we considered to be working on something of great urgency.

All of this was reasonable in retrospect. Unlike a private enterprise which would go out of business if it did not maintain competitive efficiency, the B.R.A. would not go bankrupt if it became very inefficient or even incompetent. The B.R.A. might go bankrupt, but that would have little to do with efficiency: it would be much more related to federal policies in general. Also, the B.R.A. and its staff had become used to a crisis solving attitude. Things were done in their normal fashion until a crisis developed at which time special procedures were instituted to handle the crisis. After the crisis, practices and procedures usually reverted to their previous state. The 'December Panic' of 1969 was a perfect example of this. Extra personnel were required to put together the information requested by H.U.D. After the panic was over, no strong directives came from the Director's office instituting changes in record keeping or reporting systems which would avoid

the situation in the future. Warner did make some bureaucratic changes in response to the experience, but his assignment of Friedman to produce monthly reports never amounted to anything more than a new assignment. Friedman's task was impossible without major procedural changes which Warner had no intention or desire to make. Once the crisis was over, everyone's attention turned to other things. Since our project was not a crisis nor did it ever promise a quick solution to a current crisis, it never merited constant top level attention or supervision.

Our efforts did, however, receive complete support whenever we required it, both in word and action, until very recently, and then the lack of supporting action (not hiring people as requested) was a result of federal restrictions not management dissatisfaction with our efforts. Colton received support from Champion and Warner in 1969. We received solid support from Warner in January 1970 and again in August when he got the contract with Keane apporoved by the Board. And from January 1970 on we received complete support from Drought. We regularly informed him of our progress, requested his opinions and asked him to solve internal problems for us. Without fail he took care of our problems.

Similarly, Chard and Colton received strong support from O'Brien through 1969, and Colton and I received this same support throughout 1970 until he left at the end of August. Ganz continued this strong backing when he took over from O'Brien. O'Brien's intercession on our behalf with Warner and Ganz's with Kenney have been important.

Despite this support there was little direct contact or communication with middle-management or operating personnel by top level management authorizing our activities or directing these personnel to cooperate with us. Only once, in the January meeting with department heads, did a director specifically communicate his support of our project to middle-management personnel. Drought was the only other person to talk directly to other people on our behalf and request their cooperation, and this has happened no more than five times, although always at important times.

Instead, we relied on our ability to gain the necessary cooperation by talking directly to operating personnel. Since we didn't have constant, overt, bureaucratic sanctions for our activities and requests we had to reason and bargain with everyone. We first had to gain their trust by understanding at least some of their problems. We then had to show that we could eventually help them, even if only indirectly by decreasing requests from other offices for information. Finally, we had to produce results that these people could see. All the work had to be done by us since we could not require others to do it. Ferris and Donovan had to copy and check all the data in the old and new Structure Control Card Reports; we could not expect Property Management personnel to do it. And to be sure that the system would be maintained after it was implemented we had to insure that it would not increase work loads for people who controlled key sources of data. There was no reason to expect that there would be a major change in management's role,

namely direct intervention requiring people to input data, nor did we want the continued existence of the system to require such a change.

These two interrelated factors, the concern for users at all levels and the 'working from the bottom up' nature of the project were undoubtedly the two most important factors in the case, but there were other critical aspects as well, some of which have already been alluded to. The fact that we were not closely monitored meant that we could take as much time as we felt necessary to do the job thoroughly and completely. Working on a part time basis, with academic schedules and deadlines to meet, we could not have done nearly as an intensive job as we did, had we been under high pressure to produce a product rapidly. The extra, elapsed calendar time allowed Colton, Chard and myself to learn much more about the Authority from mere tacit observation than we would have been able to learn in a much shorter calendar period, working full time, and under pressure. Also, since we weren't required to spend a large amount of our time accounting for what we had done and superficially meeting deadlines, we were able to spend almost all of our time productively.

The support from the top that we did receive, when we requested it, has already been mentioned, but it should be noted again. Without it being there at the critical times, the project would never have gotten to the point that it is now. Drought's support and assistance has to be considered a prime reason for the

project getting as far as it has. He is the highest level person who has been involved with this project since its start, even if only at a distance during the first six months. Had there not been such a sympathetic a person in his position or a similar one, who had been at the Authority long enough to know how to get things done, progress could have been halted several times.

The constructive criticism provided by O'Brien at key points was also important. In the fall of 1969, he strongly opposed the idea of Chard and Colton setting up a private consulting firm to do the job, and everyone agrees that the decision not to do that was a wise one. He had strong but useful criticisms of the description of the system which Colton wrote in December 1969. Had that description been used for the Authority as a whole, there probably would have bben serious negative consequences. Besides these specific instances, O'Brien provided a very fine departmental leadership in general, the kind of leadership which allowed us to work very effectively. Ganz continued this quality of leadership.

Another factor was the documentation which we produced. O'Brien strongly requested this at the urging of Hanson. We probably wouldn't have done this of our own volition, but it was definitely a critically necessary thing to have done. Doing it forced us to ask more questions than we would have otherwise. By the time we realized that a subsystem would have to be designed for Property Management, we were familiar with the level of detail necessary for the documentation. This detailed knowledge later proved to be

absolutely necessary for the technical design of the Structure Control Card Report. The documentation was used as a reference for the other reports as well.

Another relevant fact was the departure, shortly after Warner began as Director, of several top level employees who had been with the Authority for quite a while. Many of these people had expressed strong skepticism about the system before they left. It is unlikely that they would have exerted themselves in our behalf had the opportunity arisen. Their replacements, who were almost all brought in from outside the Authority by Warner, were not at all cynical about the system. Several were very much in favor of it. Bob Walsh spent considerable time with us in developing the Project Director's Report. Bill Haynesworth, new head of Nonresidential Development, also was very helpful. Charles Speliotis and Robert Sandy, new employees in the Residential Development Department reviewed many of our proposed reports and made numerous sugestions. The only two individuals who were anything less than very helpful were Robert McGovern, Director of Real Estate, and Wallace Orpin, Director of Engineering, both of whom had held their posts for many years. The problems encountered with them, which were not numerous, were quickly solved by Drought. However, had the large majority of management personnel we had to deal with been long time employees and reacted negatively to the system, we could not have accomplished what we did in the same length of time since our approach required cooperation.

The quality of the work done by the two firms who did the technical work on the system must also be recognized. Leinwand knowingly put considerably more time and effort into our job than the Authority could pay him for under his contract. The four reports produced as part of the prototype were instrumental in proving to the people in the Authority who had had no professional contact with computers that such a system was technically feasible. The prototype Structure Control Card Report, which proved that a page could be printed for each building on an acquisition parcel and contain only the tenants who lived in that building, organized by floor and apartment numbers, was an absolute necessity to win Property Management's support. Without this capability, the Structure Control Card Report was of no use to them, and without this source of data an integral part of the system would have been lost.

The work done by Keane Associates was outstanding. The costs which the firm incurred far exceeded the $11,800 contract amount, and this was in no way a consequence of any incompetence. Many times their personnel working on the project suggested modifications or additional details which added considerably to the usefulness of the system. They volunteered to modify the system so that any conceivable number of buildings and tenants on a single acquisition parcel could be handled. Had they merely written the programs as I had specified, the system might not have been acceptable to Property Management because it couldn't have easily handled certain parcels. They also provided a file maintenance system far more sophisticated than I had specified. The assistance

they provided in designing input forms was also invaluable. Although the formats of many of these forms have changed, the contents of each form have proven, almost without exception, to be excellently suited to the operations of the Authority. Had the contractor only done what he had legally agreed to, the system would not be nearly as efficient and useful as it is now and will be in the future.

Finally, the nature of the approach used by Colton, Chard, and myself must be considered. The system underwent numerous changes before it was produced in its final form. From its start in mid-1969 until the programming was completed in December 1970, the proposed system was constantly being changed. We did not do all the research before we made any specific proposals. Instead, we did a considerable amount of research, proposed a system, analyzed the criticisms, examined the proposal ourselves, and then repeated the process. This iteration occurred several times. Sometimes the system as a whole was involved, other times only a specific section or two was redesigned.

This approach allowed us to learn and educate others at the same time. As soon as the first specific proposal was written in December 1969, we returned to talk to most of the people we had talked to in October and November. We showed them the proposal which was something tangible to which they could relate. Sometimes their criticisms were the result of incomplete understanding of the proposal and our responses served as further explanation. Other times the criticisms were quite justified and identified inadequacies in the proposal. We then set about determining how the problem could be

solved. After solving several of these problems we showed a new proposal, containing these modifications, to these same people and started the process over again.

This process had several positive benefits. We were able to learn much more accurately how the Authority operated from these statements of why a proposal would or wouldn't work than we would have from responses to general questions such as "How does your department work?" or "What are your responsibilities and what do you really do?" These were the questions we asked to get to the point of making the first full proposal. Asking them again wouldn't have gained us much.

Another benefit was that the other personnel got a clearer idea of what we were doing before it was produced in final form than if we had used a two-step, non-iterative process of doing all the research then designing the system once and for all. The process used allowed them to make meaningful inputs to the design of the system, based on their knowledge of specific parts of the urban renewal process which was much greater than ours. This iterative process gave these personnel, who were the future users, a real feeling of involvement in the design of the system and, consequently, a small sense of responsibility for its final form. In a sense, when they no longer had specific criticisms and reasons why the sytem couldn't work, they were saying that it could work as far as they were concerned. This would not have been true if we had made only one design which was the final design of the system and then presented the system to them and asked them to use it.

Finally, this iterative process allowed us to show a real concern for these peoples' operational problems. Only by doing this could we gain their trust and therefore expect them to answer us completely and criticize us constructively.

This approach also allowed us to show responsiveness to their opinions because each new proposal included responses to previous criticisms or suggestions. The willingness to make suggestions and requests has continued after the system was implemented. This means that the personnel responsible for the system will be provided the knowledge necessary to periodically modify the system to keep it from becoming obsolete. And by producing a prototype we proved our competence to produce what we had promised, thereby increasing the mutual respect in our relations; a respect which did not exist at the beginning of the project when we were referred to as the 'computer guys.'

The approach we took had its drawbacks also. The primary liability was the constant uncertainty of our project. I have already memtioned this from another perspective as an asset because it forced us to try to develop good working relationships with all the people we worked with. But it also produced a moderate amount of psychological stress. Several times Colton and I wondered whether investing so much time and energy was wise since there was never any assurance that the whole project wouldn't be dropped the next time we needed management's approval to continue. These periodic doubts meant that we didn't work 100% all the time; much of the time

we did, but certainly not always. The positive and negative aspects of this situation are difficult to compare, but I think that the project gained more than it lost from us working without a strong, public mandate from the top.

Another drawback was our part-time status. The main consequence of this was that the calendar time necessary to complete the project was considerably greater than it would have been if all of the people who worked on the project had been able to work full time. The fact that the project has taken as long as it has, and still isn't fully implemented, has caused a few people to doubt that the project will ever be completed. This has meant that they have not been as helpful as they were a year ago. Often, we didn't talk to some people whose cooperation we considered necessary for the system's success for as long as 4 months. Because of these long gaps, we usually had to review our previous conversations with these people at length before we could bring up the current problems or issues. Had we been working full-time our meetings could have been much more frequent and efficient. The combination of the long period of time necessary for completion of the project and the secondary position of our work at the B.R.A. to our work at school indicated to a few people that the project did not have any priority. Consequently, these few people rescheduled several appointments and often tried to finish them very quickly and in a matter-of-fact way. The project would certainly have been much further along than it is now if Colton, Chard and I had been working full-time.

A third liability was our lack of experience. None of us had ever done a major procedures analysis or designed an information system. Colton, Chard, and I had all done some computer programming, but none of us had ever had any contact with the important technicalities of an information system, such as file maintenance programs and report and program specifications. This caused us to spend considerably more time doing the project than people who had had experience in this process would have spent.

This, too, is the other side of an asset already mentioned, the step by step, iterative approach. Had we all been experienced in this type of project we might have used a much more inflexible method. I'm sure this would have caused serious problems. In retrospect, our inexperience was an asset, althoguh technical knowledge of COBOL (Common Business Oriented Language) and how to write programs in it would have been very useful, particularly for me.

A final problem which wasn't inherent in our approach, but certainly was basic to the case was Warner's lack of understanding of the concepts and long term uses of the system. Colton, O'Brien, and I all sensed this from the start. Warner was periodically enthusiastic about the project because he felt the system would solve his problems. If the system works well, it will solve many management problems if used wisely, but before this can happen, the Director should understand the system, it's capabilities and constraints, and recognize how to use it in order to further its development. Although we never reached the stage at which this type

of wise management would have been very useful while Warner was Director, it wasn't encouraging to believe that when we did, his use of the system could prove to be detrimental to its further development.

To date, our approach must be considered moderately successful. We have completed a detailed design stage and have involved many people in that process. We have implemented the system completely in one project and maintained the support and interest of those whom we involved in the design process. It remains to be seen whether the system becomes institutionalized but remains responsive, as we feel it must in order to remain operational and useful.

In light of this apparent qualified success, it is interesting to compare our approach to one outlined in a recent book, The Distribution of Authority in Formal Organizations, by Gene W. Dalton, Louis B. Barnes and Abraham Zaleznik. The authors deal with the problem of consciously changing authority relations in a private bureaucracy. They closely examine one particular case and review several other cases researched by other investigators. Following this they postulate several characteristics of strategies for organizational change which they believe necessary for success. They also propose two pre-conditions as necessary for success of any strategy. Although their case of organizational change is not identical to this one, their characteristics are intended to be applicable to organizational change in general.

The first precondition they postulate is tension. "In almost every instance where one person or group successfully influenced the behavior or attitudes of others, the individuals who were the objects of influence experienced a more-than-usual amount of tension or stress prior to the time when influence was exerted."[1] They note tension also appears to be a necessary component of other types of change such as drug and alcohol rehabilitation, psychotherapy and 'thought reform.' They suggest but do not specifically state that without the existence of some sort of tension which a change can promise to lessen, there is very little reason for people to subject themselves to the tensions of change itself.

The authors also claim that someone with considerable authority, prestige, and power must support the proposed change, if not initiate it.[2] They state that not only must someone in a position of authority support the change but, that this person must have the respect of his subordinates, based on perceived experience and professional competence. Only under such conditions do they feel that this person has the power necessary to initiate functional and structural changes. Both of these preconditions, tension and support of someone with power, are necessary, in their view, for successful change but are not to be considered sufficient.

In this case, there was certainly a considerable amount of tension at several levels of the B.R.A. The Authority, as did most urban

1 Gene W. Dalton, Louis B. Barnes, and Abraham Zaleznik, The Distribution of Authority in Formal Organizations, p. 110-111.

2 Ibid., p. 114-115.

renewal agencies, received constant public criticism. The West End Urban Renewal Project was considered by many as a classic example of everything that was wrong with urban renewal. The South End Project had been under heavy criticism in 1968 and 1969 for not producing the housing that the plan had promised.

Internally, there was considerable tension as well. Hale Champion had attempted with little success to remove several people from the payroll whom he considered non-productive. When the Nixon Administration took office in 1969 it was clear that urban renewal was not to be a priority program. This fact became abundantly clear by mid-1969. Although the 'no-hire, no-fire' personnel policy was not itself threatening to B.R.A. employees, it was a change whose direction was certainly ominous to employees at all levels.

The nature of the individuals in positions of authority who supported the project does not coincide with the author's precondition as well as the nature of the tension which was present does. The project clearly was not initiated by someone in a position of authority or power. Several of the people who supported the project at one time or another did have considerable authority and respect. Primary among these was Drought. Although he could not make decisions or do things in opposition to decisions made by Champion, Warner, or Kenney, he certainly was able to accomplish a lot in line with their decisions. The respect afforded Drought was based on his long experience in urban renewal, his tenure at the B.R.A., and his influence with each of the directors. This type of basis is precisely the type outlined by Dalton, et al.

The three directors did not have nearly such a broad base of respect, but they all did have ultimate authority (except, of course, on matters which needed to be decided by the Board), and they all used this authority to support the system. Champion, although experienced with long term, public budgets, was not considered by most employees to have a working knowledge of Boston, and therefore, his potential to make things happen fast was doubted. His attempts to routinize and rationalize the operations of the B.R.A. were largely unsuccessful and consequently did not improve his reputation.

Warner was credited with understanding Boston and its political scenery. He came to the Authority as a successful private businessman and public administrator. His experience with planning and urban renewal was minimal, and this mitigated against his receiving strong respect based on proven expertise in the field. There was also considerable speculation that he took the post as a political stepping-stone, something which did not gain him favor with career employees in the Authority. This speculation continued throughout his tenure and was not unjustified. After watching him administrate for several months, several people also questioned his interest and competence in performing his job. This, of course, did not serve to enhance his prestige, but his authority was never usurped.

Kenney came to the Authority with credentials that were in someways similar to Warner's. He had also been successful in private business and had been a successful administrator of a public department. His work had been with the Public Facilities Department of the City of

Boston, and had involved long term, expensive projects while Warner's had been with the Department of Parks and Recreation involving primarily low cost, short term projects. Kenney's experience augered well for his performance at the B.R.A. while Warner's was not particularly relevant.

Kenney also had considerable familiarity with Boston. He also was a friend of Mayor White whn he started his tenure, but, unlike Warner, he was not considered by anyone to be using the position to build for future political success. This definitely enhanced his prestige relative to Warner's.

The authority of each of the directors combined with the respect and prestige of Drought has meant that there has always been the combination of these in support of the project which Dalton, et. at. postulate as a necessary precondition for success. However, this combination never resided in one person. Also, these persons have never been the prime instigators of the change, a condition which the authors consider very useful although not necessary. On the contrary, we have attempted to get the changes pushed from all levels of the Authority, but always with top level knowledge and support.

If these two preconditions are met, Dalton, Barnes, and Zaleznik claim that intended change is possible but that any strategy for change must exhibit the following four characteristics in order to take advantage of this possibility. As with the preconditions, they consider these to be necessary but not necessarily sufficient.

1. Movement from an external motive of change to an internalized motive. (e.g., movement from top management's desire to set up an information system to designing a system that will provide benefits to operating people as well.)

2. Movement from more generalized goals and objectives to those that are more specific and concrete. (e.g., movement from the objective of, say, better information in an urban renewal agency to the goal of, say, better information pertaining to the cost of acquiring specific parcels for urban renewal.)

3. Movement of those involved from a feeling of self-doubt and a lower sense of self-esteem to a heightened sense of self-esteem. (e.g., the type of esteem people feel when they are given new responsibilities and participate in new decision areas.) and

4. Movement from former social ties built around previous activities to new relationships which support the intended changes to behavior and attitudes. (e.g., the people involved in implementing information systems should become more than just 'those computer guys'. Social ties are relationships seem important to lasting change.)[1]

All of these movements were part of the strategy used in the B.R.A. case, although not as part of a conscious set or plan. The constant attempt to get everyone who was to receive a report and/or input data to view the system as a useful tool for their own jobs rather than an additional burden imposed from the top is an example of the first movement, from external motive for change to internal.

1 Dalton, et. al., op. cit., p. 109, (examples in parentheses are author's additions).

In each discussion that Chard and Colton had with operating and middle management personnel they initally mentioned that Warner supported the project and wanted to see it succeed. This external motive was not dwelled on and was quickly balanced by their statements that the system could be helpful to the person if he or she cooperated with Colton and Chard. The usefulness of this appraoch in gaining broad based support for the system and the associate changes has already been noted. Both Colton and I felt that without this support the system would never have gone beyond the design stage.

The iterative design process fits the authors' description of the second necessary characteristic, movement from general to specific goals, very well. When Colton made his first proposal it was in very general terms, as were the first discussions he and Chard held with other employees of the Authority. Gradually, we refined these generalities to produce the proposal of July 1970, (Document 4) and the Request for Proposals which contained very specific descriptions of the system and operating procedures describing how Authority personnel would use and update it. The user manuals have been written at an even finer level of detail.

At the beginning of the project there was considerable doubt about the project on everyone's part. This included Colton, Chard, and myself, although we were careful to express our doubts only to ourselves. As time went on and our iterative process continued, everyone came to feel that they understood the proposed system better.

The prototype reports helped this process considerably. The feeling of accomplishment and increased capability has been evident in several people. This has been particularly obvious in Dick Kelly in the South End who has shown justifiable pride in mastering the updating process for the Structure Control Cards and understanding some of the new information which appears on this report that did not appear on their old records. This movement is quite similar to the third one, change from self doubt to self esteem, which the authors feel is necessary.

The B.R.A. case exhibits the fourth movement least of all, but the movement does exist to some extent. We have succeeeded in building new social ties within the Authority. Colton and I are on a first name basis with many operating and management personnel. As we expand the system to other projects our contacts will also expand. As the updating process becomes fully routinized regular contacts will be made with everyone who inputs data and receives reports.

What has not been accomplished fully is elimination of some old social ties, but as the system becomes operational in more of the Authority this should occur. Already people from outside the Authority are being referred for information to us rather than to other offices of the agency. Some Authority personnel are now using us as a source instead of other people who they used before. If this change continues, we will have accomplished all four movements which Dalton, Barnes and Zaleznik consider necessary for successful

One item which is not stated by the authors but may be tacitly assumed by them as a necessary characteristic, is that the change itself must have some logical, rational justification. In formal organizations where procedures and relationships are always claimed to be orderly and rational it would seem that a formal change of these procedures or relationships would have to promise to yield more rational relationships or procedures. This, of course, requires admission that the present arrangements are not optimal. In a sense, this is the same as saying that tension must exist, but additionally it would seem that the proposed change must appear to contain a logical reason for the tension to be reduced. Our proposal did contain several such reasons. Even if our project succeeds it won't prove this as an additional necessary prerequisite, but it may suggest examination of other cases to see if some have succeeded without this pre-condition. Eventual success will certainly not call any of the work of Dalton, et al into question, however. Rather, such success will support their ideas.

V. DESCRIPTION OF THE DEVELOPMENT INFORMATION AND REPORTING SYSTEM

The Development Information and Reporting System (DIRS) has four basic objectives:

1. To keep track of the status of property acquired or to be acquired by the Boston Redevelopment Authority, and to collect and provide information in such a form so as to aid the effective management of such property.
2. To provide for operating and top level personnel a check list of the various stages in the urban renewal development process (both acquisition and disposition), and to monitor the actual and estimated status of parcels with respect to these various stages.
3. To tie the collection of information into the actual operations of the Authority so as to keep the time and effort expended to maintain the system to a minimum while at the same time keeping information up to date.
4. To collect information for the analysis and evaluation of B.R.A. projects, and to aid in setting goals and establishing priorities in the future.

The system currently produces six major reports and one set of lists. Two reports and the lists are related to acquisition parcels, two reports are directly related to disposition parcels, and two are summary reports for top-level management.

The two acquisition process reports are the Structure Control Card Report and the Project Director's Report. The Structure Control Card Report (Document 5) produces one page of information about every building or piece of vacant land which the Authority has ever acquired in each project. This report is the primary working file of the Property Management Section of each Project. It contains a description of each building, the names of all the tenants who have lived or are living in the building and characteristics of each unit including rental price, type of use, type of heat, and utilities included in the rent, if any.

The Project Director's Report (Document 6) contains one page for each acquisition parcel which has been or will be acquired in each urban renewal project. Each page includes a description of the parcel: type of use, location, square footage, number of buildings and their descriptions, and the number of vacant and occupied residential and nonresidential units. Each page also includes scheduling information about the parcel: the date which each major stage in the acquisition process was completed and the estimate of when the next stage will be completed. This report is used by the Project Director and his assistant responsible for acquisitions, if he has one. Because the pages describing all the acquisition parcels comprising a disposition parcel appear together, a detailed summary of the acquisition status of a whole disposition parcel can be obtained quickly.

There are also six lists produced concerning acquisition parcels. These are the Acquisition Parcel Listing (Document 7A), Acquisition Parcel by Disposition Parcel Listing (Document 7B), Occupied Building Report (Document 7C), Unoccupied Building Report (Document 7D), Occupied Unit Report (Document 7E) and and Unoccupied Unit Report (Document 7F). These lists are useful to the Property Management Department, the Family Relocation Department, and the Project Director's staff.

The two reports directly concerned with dispostion parcels are the Disposition Parcel Descriptive Report and the Disposition Parcel Scheduling Report. The Disposition Parcel Descriptive Report contains one page for every disposition parcel in each urban renewal project. On this page is a complete physical and financial description of the new development on the parcel. There are two different formats, one for residential dispostion parcels (Document 8A) and one for nonresidential disposition parcels (Document 8B). The residential reports contains a complete description of the unit mix in the development and the monthly rentals of the units. The nonresidential report contains a description of the different types of nonresidential use in the development, the square feet of floor space devoted to each type of use and the cost per square foot for each type of floor space.

Both forms of the report contain the cost of the new development, the price at which the land was sold to the developer, the number of buildings and the height of the tallest one, the number of parking places and other descriptive data. They also include the names and telephone numbers of all persons directly involved with the new development. In the lower left hand corner of each report is a summary of the status of all the acquisition parcels contained in the disposition parcel. This includes the number of parcels still to be acquired, the number of buildings still occupied, the number still to be demolished, the amount of money spent to date on the acquisition process and the estimated amount required to complete the acquisition process.

The Disposition Parcel Scheduling Report also contains one page for every disposition parcel in each project. This report shows the completion date of each stage of the disposition process which has been completed and the estimated dates of completion of the stages still to be completed. There are two forms of this report, one for residential parcels with FHA insurance or subsidy (Document 9A), which contains the dates of the FHA approval process, and one for all other parcels (Document 9B), which contains the dates of the conventional financing process. These reports are used by the staff of the development departments, the Project Directors, and others directly involved with individual disposition parcels.

The two reports for top level management are the Project Profile Summary Report and the Disposition Parcel Status Report. The Disposition Parcel Status Report (Document 10) contains 4 lines of information about each disposition parcel. The first line consists of basic summary data about the status of the disposition parcel and the acquisition parcels which comprise the disposition parcel. The remaining four lines contain comments about the status of the parcel made by Authority personnel directly responsible for it.

The Project Profile Summary Report (Document 11) contains a a page for each project administered by the Authority. The top half contains a summary of all acquisition activities in the project. The bottom half contains a summary of all disposition activities in the project. There are both physical and financial descriptions in both sections. These two reports are used by the Director and his staff to monitor and evaluate the activities of the projects as a whole.

There are four reports which are produced as part of the technical file maintenance part of the system. These reports are used by the members of the Research Department responsible for the operation of the system to monitor the updating process and spot and correct transactions which were incorrectly coded or keypunched. Fourteen different forms are used to input the data from six different offices in City Hall and the project site offices. These forms are collected monthly, 80 column-update cards are keypunched from them, the cards are processed using file maintenance programs, and the six reports

and the set of lists are produced from the update tape files. This process is flowcharted in figure 3.

VI. GENERAL OBSERVATIONS

Drawing general conclusions from a specific case is an enterprise which is always difficult to defend and the following pages are open to the standard attacks upon such an effort. In writing this I have searched quite widely for previous works done on the subject by people more familiar with it then I am but was unsuccessful in finding anything about my particular interest, much less written by someone experienced in the field. Although this effort is by no means comprehensive it is useful, even if only by filling an apparent vacuum.

There is no shortage of studies of bureaucracies, and several people have looked at public bureaucracy in particular. Peter Blau's work is among the most outstanding in this area. The importance of information in public bureaucracies has not been examined closely, to my knowledge.

Public bureaucracies, particularly the administrative type, exist to maintain information and make decisions based on that information. Often these decisions result in services to large groups of people, such as those who are placed in jobs by an unemployment office, receive monetary benefits from welfare systems, and obtain automobile registrations from state motor vehicle departments. Other large departments and divisions provide much less direct service to the public at large. These include building departments, budget bureaus, assessing departments, and most parts of urban renewal agencies. Information, often of a routine and specific nature, is the

primary concern of organizations such as these. Without large amounts of certain data these groups could not function. This is true also of General Motors and General Electric, but operations such as these also require raw materials, complex and expensive production machinery and sophisticated marketing techniques. Many public bureaucracies, particularly those in the second group listed above, have no requirements comparable to these. Information is the raw material, the product, and therefore the prime concern of such operations.

Large public bureaucracies fit most, if not all, of the descriptions of bureaucracies which sociologists have developed. Employees have very specific responsibilities and clear restrictions on their activities. The activities of these people, particularly those of lower levels, are very repetitive and not very stimulating, and they are usually directly related to maintaining information. Often their responsibilities include the routine production of other information which summarizes the information which they are responsible for maintaining. These summaries are then transmitted to a higher level of the bureaucracy. At this next higher level the orderly maintenance of these summaries is the responsibility of other personnel who also probably produce summary reports regularly and transmit them to the next higher level of management.

There are obviously many aspects of this procedure which can be made much more efficient by automation and the introduction of management information systems. The routine, repetitive nature of the activities is ideally suited to computerization. The high degree of specification of the characteristics of the information kept is another factor favoring computerization. Also, the summarization process mentioned is a manual management information system and is certainly susceptible to computerization. In short, many public bureaucratic operations can benefit from not only automation of their record keeping functions but implementation of a computerized system to produce various reports for management which will monitor the bureaucracy's operation and point out inadequacies and inefficiencies of that operation.

Unfortunately, the many problems associated with the design and implementation of such systems are not so obvious. All of the problems which may be encountered when designing and implementing a management information system in a private, profit-making bureaucracy may be encountered in public, non-profit operations. Often these problems are particularly complex in a public bureaucracy, and often many of the solutions available in private operations are not available in a public one. In addition, several problems may be encountered which are only found in public bureaucracies.

The first problem encountered usually is an unwillingness to consider a change in procedures because change itself is so feared in public agencies, particularly by operating personnel. A change

is threatening because it is unknown compared with current procedures which are familiar and which personnel usually feel they are competent to perform. These personnel sometimes feel that their specific duties are prescribed by law, and are not open to unilateral change, and therefore there is no justification to even consider such a change. Occassionally this is true, but usually it is not, or if the job activities are legally specified, their specifications are much more general than the operating personnel believe. Thus, a local or state law requiring that all debits and credits to particular public accounts be manually recorded and posted daily may be interpreted by those currently performing this job that they must do this exactly the way they are presently doing it. Sometimes their current procedure is identical to the procedure instituted immediately following the enactment of the law and has thereby taken on an aura of immutability.

However, a different process using computer techniques may fully comply with even such legal requirements. All credits and debits could be recorded between 9:00 a.m. and 2:00 p.m. on forms suitable for keypunching. Between 2:00 and 3:00 p.m. this data is keypunched and between 3:00 and 4:00 p.m. these transactions are made against a tape or disk file, and at the same time credit and debit statements are printed by computer. Between 4:00 and 5:00 p.m. these statements are posted. The forms on which the data was recorded are then filed to comply with requirements that all transactions be premanently filed. Often operating personnel immediately dismiss the possibility that the law could be so broadly interpreted as to permit such a procedure.

This deep set tendency to maintain the status quo and the willingness to expend considerable effort in doing so may be overcome in several ways. A clear, unequivocal directive may be issued by management that the change or changes will take place and are not subject to reversal. This method can have several negative side effects. Operating personnel may feel strongly enough about the changes necessary to implement an information system that they willfully sabotage its success. They can withhold information from the system designers necessary for the design of a successful system, or they can provide false information about key aspects of the operation. By claiming that a certain piece of information is rarely if ever used they might convince the designers to omit it from the new system. When the attempt is made to install the new system they can claim the system is unworkable because it does not handle certain pieces of data which are absolutely necessary.

Even if operating personnel do not react this strongly to a management directive they may do other things which hurt the new system. They may cooperate with the system designers only grudgingly and respond only to direct, specific questions. Working in such an atmosphere of hostility will very likely decrease the productivity of the system designers and the quality of their work. This lack of cooperation also means that the designers will not be able to design a system with fine details which could tailor it to the particular situation and be as easy to use by these operating personnel as

technically possible. More serious than this, if the designers do not ask all the specific questions required to design a system which can function successfully in a given situation, they will not receive the information. If the hostile atmosphere did not exist, operating personnel would probably voluntarily provide information about the procedures used which they knew to be salient, even if they weren't specifically asked about it.

Jack Fitzgerald of the Real Estate Department asked in October, 1970, when the system was already designed and the programs being written, whether the system would handle the ward number of the ward in which an acquisition parcel was located. At that time the system was only designed to handle the assessor's parcel number. Fitzgerald pointed out that the assessor's parcel number was not much use without the ward number. Had he been opposed to the system he surely wouldn't have pointed out this oversight until after it was too late to remedy.

In private business, this situation could be handled using several management resources. Personnel could be informed that they would be fired or demoted if they did not cooperate. They could also be informed that those who were the most enthusiastic and helpful during the design and implementation process would receive preferential treatment with regard to promotions and salary increases.

Unfortunately, these options are not similarly available to managers of public bureaucracies. In the overwhelming majority of these organizations, the threat of termination is meaningless because Civil Service regulations prevent such actions. Personnel can only

be dismissed for gross incompetence or misconduct. A Civil Service Review Committee would almost surely not consider failure to cooperate with consultants or highly paid, in-house personnel justification for dismissal, even if they did concede that such a failure had occurred. Similarly, guaranteed increases in salary based soley on length of service and promotions based primarily on tenure deny public agency management of other tools available to private management. In certain cases, some of these approaches may, however, be available.

One approach which has the potential to overcome these problems, partially, if not wholly, is available. A proposed system can be presented to operating personnel as something which will make their jobs easier. It may be a way to keep more accurate records and thereby receive less management criticism. It may eliminate the writing of the same information in several places. A proposed system could eliminate tedious manual extraction of large amounts of data from files. All of these may have appeal to operating personnel.

Clearly, care must be taken to allay any fears that machines will replace the personnel whose cooperation is being sought. If, indeed, personnel will be rendered expendable by installation of an automated system there is a serious problem of credibility. If personnel are informed that some will be dismissed upon installation of the system, these personnel are not likely to cooperate at all, and the system is not likely to succeed. If personnel are to be transferred rather than replaced, the new job must be attractive enough to offset the unpleasantness of breaking personal relationships

and learning new duties, in order to insure that these personnel will not cause serious problems for the proposed information system. And, if the transfers are too attractive, those who are not to be reassigned may view the system as having a relatively negative effect on their positions and cause problems for the system. Finally, if people are to be dismissed or transferred but this is denied by management until it actually happens, the resulting antagonism of the remaining personnel may result in serious problems for the system after the others are dismissed or transferred.

If the primary justification for instituting a management information system is an eventual decrease in personnel costs, then management and the system designers must be aware of the many problems which will almost surely be encountered. Managers in private firms with profit sharing arrangements can point out the benefits to those who remain, in order to gain support. Or they can claim that if the firm does not remain competitive, it will go bankrupt and everyone will lose. Once again, these options are not available to managers of most public bureaucracies.

Even if personnel are not to be dismissed or reassigned when the new system becomes operational and they firmly believe this, they may oppose the installation of the system for many other reasons. The mere fact that such installation means a change in duties at all has already been mentioned as a cause for antagonism. Another is that the system will mean that certain people will lose control of information which they always have controlled.

Such a loss of control may be viewed as serious for one or more of several reasons. If the information concerns performance of the individual who is losing control of it, the threat is obvious. If the system will make information available to others which indicates poor performance in the past by this individual or performance which was not as good as previously reported, recriminations are very likely. This is certainly not a pleasant prospect for the individual and one to be avoided if at all possible. Even if a person is confident that a new management information system will not cause this problem for him he may have reason to fear it because of future problems caused by his loss of control of information. He may have been confident that under the current system he would be able to cover up poor performance if necessary even if he hasn't had to do this yet. He may view the system as denying him this capability and therefore to be thwarted if possible.

Although the system may not threaten to make information much more readily available which might reflect poorly upon the person who has control of it, the system may threaten to make information much more readily available which would reflect poorly upon the performance of others. If this person has felt for one of several possible reasons responsible to insure that this incriminating information is not released unless absolutely necessary, he will probably view the system as a serious threat to fulfilling this informal responsibility in the future.

It should be noted that information may be incriminating in at least two ways. Information can by its content indicate poor performance by an individual or group. Also, the lack of information which should exist can indicate poor performance by one or more people. If the same person does not both provide and maintain the information, more than one person may be responsible for the lack of information; one for not reporting it and one for not recording and maintaining it properly filed.

This new availability of information to management may not be considered threatening if it will not present a markedly new picture of the performance of operating personnel, but the possibility that other people who are not part of the bureaucracy or a particular section within the bureaucracy will have much greater access to information may be threatening. Almost every public bureaucracy has its critics, some of whom wage personal vendettas against employees of the bureaucracy. A new ability on the part of these critics to present accurate information either in or out of context to criticize the bureaucracy and its personnel will be viewed very unfavorably by these personnel. Although they may believe that management shares this concern, they may question management's ability to control who does and does not gain access to this information which will be easily reproducible, both in aggregated and disaggregated form, when the system is operational.

Another reason for operating personnel to view a proposed information system unfavorably has nothing to do with the content of the information but with the nature of many jobs in a public bureaucracy. As previously noted, many jobs in a bureaucracy involve, almost exclusively, recording and maintaining information in a routine and orderly fashion. As a rule these jobs are not particularly stimulating nor do they pay very well. In short, they do not provide very much satisfaction to the employees who perform them. They can be rewarding in at least two ways, however. Having responsiblity for information means that others who want this information must interact with the person who has responsibility for it. This interaction provides several benefits. The interaction always gives a sense of importance to the person who has control of the information. If the request comes from someone higher in the bureaucracy it implies the dependence of the person requesting the information on the person providing it. If the request comes from someone lower in the bureacracy or outside of it, it implies not only dependence but the power to satisfy or thwart someone else's wishes. If the interaction is face-to-face the stimulus is heightened and the satisfaction from these implications of dependence and power heightened, also. If the person maintains the information well and works very closely with, although subordinate to, someone with considerable status or power in the bureacracy, a major benefit of the job may be the respect of this person with status which is gained by doing a good job. Comments such as "I don't know what I'd do without you" are very important rewards for file clerks and records secretaries.

An automated information system could decrease or completely eliminate these rewards by providing reports directly to management. This would eliminate much of the fact-to-face contact. By making the provision of information automatic and impersonal, the importance of the operating personnel in the eyes of management would probably be greatly decreased. Similarly, if the control of information is automated and centralized, the individuals who had control of information would no longer have contact with people from outside the bureaucracy either and thereby could lose the feelings of power and ability to satisfy or frustrate peoples' wishes as described earlier.

People may also be opposed to an information system because they honestly don't feel that one can be designed that will work. This opinion may be based on ignorance of the technical capabilities of data processing machinery or the competence of system designers. Or it may be based on an inaccurate assessment of the operation which is to be automated; personnel may feel that it is more complex, less routine, and less stable than it really is or that it can't be made simple, routine and stable enough to be successfully automated. Finally, the opinion may be absolutely correct. The procedures may be too complex, too irregular, and too unstable to be accurately specified and automated. This may be true even if management personnel don't think so; it may very possibly be true if the management personnel who are pushing the establishment of the information system are new to the operation.

Many of these numerous reasons for operating personnel to dislike the prospect of a management information system have counterparts for middle management personnel, those below top level management which has proposed the m.i.s. or has agreed to support someone else's proposal to establish an m.i.s. The problem of information becoming available to top-level management which reflects poorly on a manager or director of an office or department is similar to that noted for operating personnel. Perhaps, it is more threatening because this person's primary responsibility may be supervision of personnel whose job is recording and maintaining information and files. Also an information system may provide summary reports which contain information in serious conflict with summary reports that the manager or director has sent to the top before the installation of the system. This could imply either incompetence or conscious deception. It could also imply inaccuracy of the information system, but the burden of proof of this almost always falls on the operating and management personnel, a tacit statement that they are guilty until they prove themselves innocent. None of these prospects would be appealing to a manager or a department director.

There is another possible consequence of the establishment of a m.i.s. which may disturb a manager. The new system may provide him with information which he never had access to before for decision making. If he feels that he doesn't know how to use the information or that the information will call into question decisions that he has previously made on the basis of other information, he will fear the new information rather than welcome it.

All of these problems in one form or another, may face system designers and those charged with implementation, and they must be substantially overcome before the system is completed. Otherwise, the system will probably have serious flaws and will be resisted whenever possible. The first step in overcoming them is recognizing them, and this should be done in the first phase of the design process which involves thoroughly investigating at a fine level of detail the current methods of handling information in a bureacuracy. At this point people can show the first signs of hostility, and often this hostility will be the result of the method and attitude taken by designers in making the intitial contact.

From the very beginning the designers must attempt to build a feeling of trust in the operating and middle management personnel. At the start of the analysis of current procedures the designers must be very frank about their purpose. They should make it clear that they are not on a witch-hunt to uncover incompetence. On the contrary, they should make it clear that they have great faith in the competence of the operating personnel and that only by learning completely the complexities of the current procedures can the designers do their job properly and design a potentially successful system. Arrogance on the part of the designers will cause them many problems. In conjunction with this the designers should communicate from the start their intention not to make the jobs of the operating and middle management personnel any more difficult than before and whenever feasible

to make them easier under the new system. To do this the designers will need to understand the current procedures completely, and they will gain this understanding only if the operating and middle management personnel cooperate fully.

As qucikly as possible the potential benefits of such cooperation must be demonstrated. For example, as soon as the designers discover that a particular list of information is produced regularly and requires a considerable amount of effort to produce under the current system, they should determine if the automated system could produce this list regularly without considerable expense. If it could, this should be told to the personnel who are responsible for producing it. This was done in the design of the Property Management subsystem. The set of six lists was intended to decrease the work load of operating personnel, and it has. Such an opportunity will probably be viewed as a benefit by these personnel unless, of course, the production of this list is the only job function of certain personnel. In this case, it would be better to only be sure that the list could be produced by the system instead of by operating personnel at some time in the future, if top level management wanted this. This approach must be used carefully; a lot of unfulfilled promises will have serious ramifications later on.

The depersonalization of jobs caused by a management information system can never be overcome entirely, but there are a few tactics which can be used to decrease the seriousness of this problem. The system designers, the people who implement the system, and the people who are responsible for its operation and gradual improvement (they may be the

same persons or different ones) must attempt to replace some of the personal contact and professional respect which may be lost by operating personnel when the system becomes operational. During the design phase, respect should be given personnel for the jobs they are performing, even if parts of them are to be done by machine. Secondly, the absolute necessity of competent personnel to input information to the system should be stressed from the very beginning, both to operating personnel and all levels of management. This allows operating personnel to view their new jobs of filling out input forms in an equal or better light than they viewed their old jobs of recording information in three or four different places and then retrieving it as necessary. Periodic memos and visits from middle and top level management communicating awareness of and gratitude for making the change successfully and performing the new procedures properly are also useful.

Frequent visits from the personnel responsible for the technical operation of the system are also very useful. Only these people really appreciate the importance of the accuracy required of the operating personnel when filling out input forms. In the Philadelphia Redevelopment Authority the input forms are picked up weekly by an employee directly involved with the operation of the agency's information system. This person has a first name relationship with all the people who fill out the input forms. He talks to them about any problems, asks for suggestions, particularly changes of the input forms, informs them constructively of any mistakes they may have been making

frequently, suggests how the person might eliminate the mistakes, and shows appreciation for the person's general performance and desire to improve. A similar approach is being used in the B.R.A.

The issue of control of the information once it is printed on reports produced by the computer can be handled using several approaches, but it should not be discounted as trivial or inconsequential. All of these approaches depend, once again, on operating and management personnel trusting the people associated with the system. Information which is truly confidential is the most serious problem. If this information is really only needed by management in summary, aggregate form, the system designers can promise not to design a report which would contain this data in disaggregated, confidential form. This approach may also be used for information which technically is not confidential but is quite personal, so long as the data is really needed only in aggregate form, as before.

This approach was used in the B.R.A. system with regard to the cost of acquisition parcels. This information was necessary to determine regularly how much money had been spent to date to acquire the acquisition parcels in each disposition parcel and how much money remained to be spent acquiring these parcels. The actual cost of each acquisition parcel, an item of information which the director of the Real Estate Department considered rather confidential, although legally public information, was not of particular importance by itself. Consequently an agreement was reached that there would be no reports which contained this information in its disaggregate form.

This approach has one major drawback. Because the disaggregated components of the sum or count are never printed in any one place, it is very difficult to determine how a particular sum or count was arrived at if it is questioned. It was very difficult to prove the accuracy of the total acquisition cost for a whole disposition parcel because none of the reports printed the acquisition cost of each acquisition parcel. For this reason, the agreement with the Real Estate Department of the B.R.A. has subsequently been modified and is now an example of a second approach.

This approach is an agreement that the office that provides the information in question will be the sole recipient of reports on which the information is printed in its disaggregated form. This means that to answer any questions about the composition of specific pieces of aggregate data, this office must be consulted, which was the procedure before the system was established. A program is being written as part of the D.I.R.S. which will produce a list of acquisition parcels and their costs. The Real Estate Department will be the sole recipient of this report.

Another approach is to produce only two copies of reports containing the information in question. One would be received by the office that provides the specific information of concern, and the other would be kept in the office of the personnel who are responsible for the system as a whole. This would allow these personnel to accurately know the status of each piece of information in each record. However, these personnel would be obligated not to release the disaggregated

information to anyone but instead to refer requests to the controlling office.

The final approach is to discuss the matter with the operating and management personnel who are concerned about releasing the information. It may be possible to convince them that printing the disaggregated information will not have the serious consequences that they fear. This certainly should be the first approach used if the system designers are convinced that regularly providing the information in its disaggregated form to other managers will significantly improve their decision making. Several meetings of the individuals who don't want the information released and those who would like it on a regular basis with the system designers presiding and the head of the bureaucracy or one of his or her staff present would allow all points of view to be aired and the decision most acceptable to all to be determined. The system designers should be careful not to favor either side too strongly; they will have to continue working closely with both sides after the decision is reached, and if the decision is not satisfactory to all concerned, working closely with the losing side may prove to be very difficult.

If the information is legally confidential, such as certain medical information, the system designers should not consider the last approach described. Nor should they take it if they are not sure that providing the information in question to other parts of the bureaucracy will result in a significant improvement of these departments'

performances. If a meeting of affected individuals is held, and none of the individuals to whom the system designers want to provide the disaggregated information say they want the information or could use it if they received it, the competence of the system designers will surely be seriously questioned by those at the meeting and others who hear of the meeting. The designers may very well think that the information should be used by these other people in making their decisions, but if the people who will actually make the decisions don't agree, the argument will look rather foolish to those who don't want to release the information.

The designers must determine as quickly as possible whether the system will provide information to management which will reflect poorly on certain employees past performance. This determination should be made when the designers investigate the records presently kept. In order to gain the knowledge sufficient to accurately specify the characteristics of each type of data which will be kept in the new system, the designers will have to examine many records. This will give them an idea of the completeness of the current records. As they question the personnel about how they produce the summary reports they presently produce, the operating personnel may act and speak so as to imply that things aren't always what they appear to be. If the designers have gained the trust of the personnel by this time, they can ask some very direct questions to determine whether in the past reports have indicated one thing while the actual basic records indicated another. Otherwise, the designers will have to answer the question by more indirect means.

If it appears that when the new system becomes operational questions will arise about the accuracy of past reports, the designers and implementers must be preprared for it. If the first results of the new system perceived by the operating personnel are severe reprimands and dismissal for poor past performance, the system will always be viewed by those personnel who remain as a threat, something which makes their jobs much more difficult not easier. The designers and implementers should approach the problem from two directions. They should show the operating personnel that they recognize the problem and that they do not feel the system should be used to justify punishment. The designers should make a promise that they will do their best to insure that management does not initially use the system for this purpose. At the same time they should make it clear that in the future the management reports will be produced automatically from the basic data which the operating personnel input. Consequently, the reports will reflect no better performance than actually occurred. This combination should allay the operating personnels' present concerns and make them realize that they must perform adequately in the future.

Simultaneously, the designers must carefully present the problem to management. The point to be made is that the system will be seriously jeopardized if the first thing management uses it for is to claim incompetence on the part of subordinates. Additionally, the designers should emphasize that if the system is successful, it will ensure accurate

reports of the activities of subordinates in the future. Managers whose primary concern is long term efficiency and who want to use the system to achieve this goal will see the wisdom of not reacting punitively if such a situation does develop. Managers who do not make this choice probably would not be aided by the system, even if it weren't jeopardized by their initial actions. Before long, the system would falter due to this lack of understanding and consequent lack of emphasis placed on the system by the manager, unless the system was so useful to operating personnel that they continued to update it without pressure from management.

Hall faced this problem when he was implementing the rehabilitation system. The Rehabilitation Section had been reporting a volume of unit rehabilitations which was considerably in excess of the actual number. The computerized system was sure to make this much clearer than it had been in the past. Hall pointed this out to the management personnel involved and suggested that they inform their superiors of this ahead of time as well as the fact that accurate reports in the future would be guaranteed. This approach appears to have been successful.

These are the various approaches which might be useful to overcome attitudes of operating personnel which can jeopardize the successful design and operation of a management information system. Other socio-psychological problems will be found in dealing with middle and top level management during the design and implementation of a m.i.s. in a public bureaucracy. The most common problem is one already alluded to; managers feel that their decisions require too much unstandardized, non-routine information that can't be electronically

stored and retrieved. Because of this they feel that designing and establishing a m.i.s. would be a total waste of time. This issue is of primary importance and to date there is no formula to determine accurately whether the decisions made by a particular supervisor or manager will be significantly improved in quality or speed by a m.i.s. There are some situations in which a m.i.s. would clearly be useful, situations where numerous decisions are based on reports summarizing large quantities of data which require considerable amounts of operating personnel time to produce. Other situations clearly are not ones in which it would be useful to establish an m.i.s.; an ombudsman's office would be an example. Between these extremes there are a vast number of bureaucratic situations. I do not propose to deal with this problem here. It is a subject of far greater scope than this paper and has been dealt with by a few other people, although not at all conclusively. A Ph.D. dissertation now being written by Kent Colton in the Department of Urban Studies and Planning at the Massachusetts Insitute of Technology should shed much more light on this subject.

For the purpose of this paper a very large assumption will be made; the bureaucracy in which a management information system is to be designed and implemented has already been determined to be one in which such an effort will have a significant positive impact. Even in a case such as this the designers must be aware of the likelihood that a considerable amount of relevant information cannot be standardized and automated, and they should not promise or attempt to do so. In

the B.R.A. a developer's past record of performance is a very important factor when he is considered for tentative designation as the developer of a disposition parcel. His past record also has a strong bearing on the amount of time the development staff member must devote to the development and how quickly others can expect the development to progress. The quality of a developer's past record, however, is a very subjective item. Although Colton and I recognized its importance, we never promised or tried to incorporate it in the system.

The first approach to a manager or supervisor who has the attitude that he can't be helped by a management information system is to ask him or her to discuss the job in question completely to be sure that this opinion is correct. The justification for the manager to spend time on this discussion which he believes will surely prove his point is that spending a few hours or a day can insure him that he isn't passing up an opportunity to make his job easier. This rationale combined with a directive from top management to discuss fully any subjects of interest to the system designers will allow the designers to determine for themselves in what ways, if any, the system could be useful to the person and show him these.

Managers and department heads who have the opposite opinion can also be a problem for the designers. A manager who says he wants all the information the system can provide him is either saying that his decisions are based on widely varying data in different situations and that he can't specify the information ahead of time because each situation is unique or that he can't specify the information which

will be relevant to a decision ahead of time because he doesn't know what information is relevant to the decisons he makes. The latter alternative is a possibility because a manager who knows the priorities of the information he uses would not request all the information potentially available since a large amount of that information would only make it more difficult to use the specific amount he was interested in. Clearly, all the information in a large system cannot be equally relevant to a decision unless it is all irrelevant.

In a situation such as this, the designer must work with the manager to set priorities on the information which is available. This is necessary to whittle down the amount of information which will be reported on a regular basis to an amount which is truly useful and able to be processed by the recipient of the report. Russell Ackoff points out the importance of this point in his outstanding article "Management Misinformation Systems" in the December 1967 issue of Management Science.[1] He suggests that most managers don't suffer from a lack of information in general. In fact, they often have far more information than they can process much less use. However, many managers do suffer from a lack of information relevant to the decisions they must make. The designer's job is to work with the manager in determining which data he will receive.

1 Russell L. Ackoff, "Management Misinformation Systems," Management Science, p. 147-148, December 1967.

In Sociology and Modern Systems Theory by Walter Buckley, the author discusses this problem in an explanation of information theory. Buckley states that for communication to exist a "source" must produce a "variety" of symbols or signs which are of use to a "receiver." He then notes Ackoff's expansion of this idea by defining 'use' in a way which is very relevant to someone designing a management information system.

> Ackoff attempts to operationalize this notion by way of a formal definition of the behavioral elements in an individual's "purposive state." Without attempting to adhere to his degree of formality, we can state these behavioral elements to include: 1) the existence of at least two alternative courses of action available to the individual in his given environment; 2) at least ofo fo the objectively available courses of action are subjectively potential choices of the individual (to which probabilities are theoretically assignable; 3) these potential course of action have some effectiveness ("efficiency") in bringing about an outcome or objective of the individual (also definable in terms of probabilities); and 4) the outcome has some value to the individual (negative or positive). Ackoff then defines the nature of communication. A message is defined as a set of signs (or symbols) that signify something to somebody, i.e. that produce responses to things other than themselves. Communication exists between A and B if B responds to a set of symbols selected by A, who is in a purposive state." The definition is intended to imply that A may communicate to himself; and that, as sender, he may not intend or desire to communicate to a receiver in order to do so in fact.....
>
> All these definitions are then organized into a conceptualization of the communicative act. In general, the receipt of a communication involves a change of the receiver's "purposive state." The change(s) may be in one or more of the following: 1) the probabilities of choice associated with

> the possible courses of action; 2) the efficiencies of the courses of action for the outcome(s) or objective(s); 3) the value(s) of the outcome(s); or 4) new courses of action may become possible for the individual. On this basis, Ackoff analyzes communication into three components: the transmission of information, of instruction, and of motivation. Thus, a communication or message which changes the number of, or the probabilities of choice of, potential courses of action thereby informs, one which changes the efficiencies of the choices relative to desired outcomes thereby instructs; and one that changes the values of outcome(s) and thereby the basis for selecting them, thereby motivates.[1]

In terms of designing a management information system, the regular reports of the system will correspond to the role of A above and the manager to B. The system design process involves determining just exactly what data should be incorporated in the system in order to provide the "information" needed by the manager. In other words, what data in a given situation are likely to change the number of probabilities of choices subjectively available to the decision maker. It is also possible and desirable for a m.i.s. to provide data which "instructs" or changes the efficiencies of the subjectively available choices relative to desired outcomes. (A m.i.s. could conceivably "motivate", but this is not common. Data which changes the values of particular outcomes is usually very non-standard and is transmitted at very uneven intervals. Sources of such data are also very diverse,

1 Walter Buckley, Sociology and Modern Systems Theory, p. 120-121.

and in the case of public bureaucracies, they are frequently outisde of the bureaucracy.) However, to design a system which will "inform" and perhaps "instruct" the designer must have full knowledge of the choices which are avilable to a decision maker when he makes decisions, and on what basis he makes them or would like to make them. Data which neither "informs", "instructs", nor "motivates" is considered "noise" and is disfunctional.

Even if the manager is able to state what information he wants, the designers should review each piece he has chosen to be sure it really does "inform" or "instruct." A manager may be skeptical of the utility of the system and not want to spend much time answering the designer's questions. Unless specifically requested, managers with this attitude will not carefully review each piece of datum he has requested and explain why it is useful. He also will not attempt to assign each piece of datum a priority relative to others which are useful in making a particular type of decision. Only after he does can the designer begin to understand the manager's reasoning and approach to making the decisions he makes.

The designer should also review the data which the manager says is not useful to him. Since there will be a considerably greater amount of information in the system, and therefore, potentially available to him, than in the past, the designers should be sure that he considers each item carefully. They should look particularly closely for data which a manager has not used in the past, but would

"inform" or "instruct" him more accurately or efficiently than data which he currently uses and until this point has planned to continue using. Data which the designers feel should be substituted for presently used data or provided in addition to currently used data should be presented tactfully to the manager for his or her review. The designers must always be careful not to infer by their actions or suggestions that they know how to do the manager's job better than the manager, even if they honestly believe this. The manager will be the one who will use the information system to make the decisions in the future, not they system designers. As with operating personnel, if managers are antagonized by system designers, they certainly will not support the system nor use it any more than necessary.

The other major problem which may develop as the designers work with a manager is that they become convinced that he primarily views the m.i.s. as a mithod to weed out incompetence in his staff. The problem was mentioned already on page 131. The designers must 'play down' the importance of the system for this purpose, especially before it is institutionalized in the operation of the bureaucracy, something which may take a year or longer. This appeal should be successful unless the situation is very bad. In such a case, the incompetence of operating personnel will not only be obvious to middle management but to top level management as well. The lower manager may feel that he is compelled to take immediate punitive action unless the designers can get top level management to communicate to their subordinates that such action should not be taken immediately but rather that the system should be given time to 'force' improved

performance by operating personnel.

The most difficult problem a designer will face in executing his job is handling a situation where he is convinced that a person is incompetent to handle a function necessary for the success of the system. In the case of operating personnel this may mean that the designer believes a certain employee is not capable of learning how to input information. This should occur very rarely, however, because the designer should devise an updating system which is simple as a matter of course. This is always necessary to insure that different personnel can easily assume the updating functions when the person normally responsible for them is on vaction, sick or leaves the organization. It is more likely that the designers will encounter a manager who they don't feel can be trained to use the system effectively. Often this will be because the manager has been doing his job for several years and sees no reason to change his practices. Other times the designers may feel the manager is incapable of performing the job well now and will be no more capable of using the m.i.s. to perform it well in the future.

Situations such as these consitute a difficult dilemma for the designers. If they ignore these situations and design and implement the system in spite of them, it may prove impossible for the system to function with these personnel in their present positions. This will be a serious loss to the organization as a whole as well as an

indictment of the designers and implementers. To the extent that top management has backed the project it will reflect poorly on their competence. Clearly, to avoid these consequences the situation should not be ignored.

However, if the designers make an issue of the situation they may be reprimanded for overstepping their responsibilities. Presenting their case as a top level management decision may avoid this outcome. At least, if the system does fail due to these reasons, the responsibility will primarily rest with top management, not those directly associated with the m.i.s. Even if top management agrees with the designers and takes positive action by reassigning or dismissing personnel, the designer can not be sure of success. Such actions may antagonize other personnel so much that they will not cooperate with the designers in the future or even attempt to sabotage the system. The designers should also make this possibility clear to top level management when they initially present the case.

Designing an information system for a public planning agency is considerably different from designing one for a public bureaucracy with 'line' functions. Designing for a planning agency, such as the Planning Department of the B.R.A. requires knowledge of what information is needed, why, how it will be used, and by whom, as has already been described. The problem lies in the fact that the planning agency normally has no bureaucratic control over the sources of information. These sources may be other agencies within the same level of government, agencies in different levels of government, or private agencies, such as private social service organizations, real estate firms and

mortgage bureaus. It is very difficult to obtain information from these agencies on a regular, guaranteed basis unless these agencies already have computerized operations of their own which can be accessed to obtain the desired information.

In Boston, the B.R.A., through the Community Renewal Program, has provided the funding and technical supervision for a project which is automating the entire record keeping functions of the Assessing Department of the City of Boston. The benefit of this project to the B.R.A. will be access to an accurate, electronically manipulatable land use and building description file. Using this file, which must be maintained by the Assessing Department for that department to continue functioning, programs can be written to display this information on maps or aggregate it by categories useful to the Planning and Research Departments of the B.R.A.

Because the B.R.A. has provided the funding and direction for this project, it has been able to get the Assessing Department to agree to keep certain information which is not of particular interest to the Assessing Department, but which the Planning and Research Departments will find useful. Some sort of bartering process such as this will almost always be necessary to get one agency to maintain information which that agency is not interested in but which a planning agency can use.

If the agencies are within the same level of government the chief executive, (mayor or governor, e.g.) may be able to force the line agencies to collect and provide 'extra' information to the

planning agency, if he has enough power over the line agencies and wants to exert it in behalf of the planning agency. This service by the line agencies could disappear very quickly, however, with a change of executive. Consequently, this type of arrangement is certainly less preferable to one which has some tangible benefits to the line agency. Before starting the design process, the designers should determine as precisely as possible exactly what they can barter, such as funds, power, or prestige.

The conditions necessary for successful implementation of a major management information system in a public bureaucracy are as unclear as the characteristics of bureaucracies whose operations will be significantly improved by the institution of a management information system. Successful implementation of such a system constitutes a major change in the operations of a social organization. There is reason to believe that the conditions which others have postulated as necessary for successful bureaucratic or social change are also necessary for this particular type of change. The set of conditions postualted as necessary by Dalton, Barnes, and Zaleznik in The Distribution of Authority in Formal Organizations has already been examined in the analysis of the case and they are useful to review here.

The importance of tension seems difficult to deny. Without this there will be little incentive for employees of a public, civil service type bureaucracy to change. Even the opportunity to make their jobs

easier will have little appeal if they do not feel that their jobs are at all difficult to perform and, therefore, do not have some tension about this performance. If tension does exist the opportunity to decrease it by supporting and using the system should be made very clear, very frequently, by the designers and implementers.

Dalton, et. al., also point out that tension can exist at different levels of an agency. Only top management may perceive serious problems which the organization faces or will face in the future, and, therefore, they are the only ones experiencing tension. On the other hand, lower level operating personnel may be aware of serious paperwork overloads and backlogs or increasing inaccuracy of files and reports to management which management is unaware of yet. In such a situation, only operating personnel will experience tension.

The designers must work to make whatever tension exists in the agency salient to as many people as possible. By making people aware of tension that exists in other parts of the organization, a broad base of support for the system and associated changes may be built without creating immediate, personal tension for all employees. Clearly, this type of situation would foster success of a new system much more than a situation in which only upper level or lower level personnel were experiencing or aware of tension.

A powerful influencing agent is also clearly necessary. An information system will not just evolve. A long, deliberate, calculated process is required to produce such a system. Such a process will not take place in a public agency without the strong support of someone in a position of authority. The process requires a long time to produce any benefits, often more than a year. Lengthy, costly, 'non-productive' processes such as these in public bureaucracies receive frequent cirticism, and someone besides the designers must be willing to defend and protect the development process if it is to reach fruition. Because decisions concerning staffing and financing are made at the top of most bureaucracies, this is where the support must be. (Sometimes these decisions are made outside the formal boundaries of the bureaucracy. For example, the mayor or city council of a city may make many specific decisions about allocation of funds in the departments. In this case, extremely strong support by the head of the department will surely be necessary to protect a long term project such as this.) Besides this, the support must be translatable into positive action. If middle management will not cooperate with the designers no matter what tactics they use short of appeal to the top, this approach must be available to them as a last resort, and its efficiency must not be in doubt. Indeed, if such support is common knowledge in the bureaucracy, this tactic of last resort will probably never need to be used by the designers; its mere existence will produce the results without it being exercised.

Such support will also be critical if the designers encounter problems of an employee's competence such as that described on page 140

of this section. Without such support, the designers will almost surely receive a reprimand for exceeding their sphere of responsibility and competence, and if the designers' judgement is correct the system, or some part of it, will likely fail. The same sort of top level support is necessary to effect major procedural changes which the designers may feel necessary.

This support can be built and nourished in several ways, three of which are quite important. The first is simply that the designers should frequently inform top level personnel of their activities and progress whether they are required to do so or not. The second is that these top level personnel should be involved as much as possible in the design process. The methods already described to deal with managers or department heads are useful for dealing with top level management, also.

These employees may present a special problem for the designers, however. Although they may effectively demand their subordinates to work with the designers at any time, they may not be willing to spend much of their own time with the designers. The designers must be careful not to shy away from this situation. If top level management does not make a few meaningful inputs to the design process they probably will not feel any personal stake in the system's success. By requesting top level personnel to offer their expert opinions about specific matters the designers can develop a feeling of personal involvement with the system on the part of management.

Management personnel may still not feel a real personal involvement with the system unless they understand how the system will work. This point is also noted by Ackoff in his Management Science article. The last of five assumptions often made by system designers which he takes issue with is that management does not have to understand how the system works but only how to use it. He points out that if management does not know how a system works they will be unable to accurately determine how to use the system better or how the system should be changed to make it more useful. Even if the designers did a perfect job of design and the system was implemented and initially operated precisely as they wanted it to, over time the system would become obsolete if it were not changed to meet changes in the operations it is helping to manage. Top level management must have the knowledge necessary to know when such changes must be made although they do not need to know how the technical problems are to be worked out. Another result of ignorance of how a system will work may be an unwillingness on the part of top level management to make difficult management decisions concerning personnel or procedures. The necessity of changes requested by the designers will not be at all clear to them. Although the designers must be careful not to overload these people with information about how the system will work, they must be sure that management understands the basic operational concepts of the system so that detailed descriptions of a particular organizational problem which only top level management can solve will make sense to them when such a problem arises.

This tactic on the part of the designers also is in line with one of the four movements which Dalton, et. al., postulate as necessary components of a successful strategy of change, the movement from self doubt to self esteem. To be able to use a tool but have no idea how it works is a very insecure position to be in, particularly if nearby individuals know how it works but make no effort to share this knowledge. Operating personnel can experience the same insecurity. The designers should always attempt to explain to all persons involved with the system how the part they are directly associated with works and how it fits in with the system as a whole.

The other three movements have already been mentioned but they merit review. The movement from general goals to specific objectives is highly relevant to a strategy for the design and implementation of a management information system. A much larger group of people can usually be convinced of the wisdom of a general idea that they hear for the first time than that of a specific objective heard for the first time. Often specific objectives much more clearly involve personal changes or threats than general goals. Since employees' initial reactions usually remain for long periods, this movement helps to avoid as many negative initial reactions as possible. Becuase general goals can be used to organize employees' support, they are useful to designers in another way. By moving from general goals to specific objectives the designers can win support for the system and then convert this to a willingness to change.

The movement from external motives for change to internal ones is directly related to the movement from general goals to specific objectives. Although general goals may be somewhat relevant to the majority of employees, they usually do not imply outcomes which are tangible to very many of these employees. The designers should move from the general goals involving a motive for change which is external to most employees to specific objectives which involve motives for change which are internal to most employees. The designers can do this by designing the system to be something of positive value, even if only indirectly, for each employee involved with the system. In this way the success of the system becomes an internalized goal.

The movement from former social ties built around previous activities to new relationships which support the intended changes in behavior and attitudes is the one that is most directly related to successfully maintaining the system in an operational and useful state. The other three movements are primarily useful in avoiding or overcoming obstacles in the design and implementation process. After this process has been successfully completed, the major problem is keeping employees from reverting to previous practices. By providing new social relationships which support the new practice, and replace or supercede most of the relationships associated with old practices, the designer of the system can go a long way towards insuring that the system will not rapidly atrophy and be abandoned. Atrophy and abandonement not only seriously decrease, if not eliminate, the value of all the work and money involved with design and implementation, they make any attempt to make similar changes towards efficiency and

coordination in the future much more difficult. Obviously, the designer should consciously attempt to avoid atrophy and abandonment for both reasons.

The design and implementation of a management information system in a publc bureaucracy is a difficult process to complete successfully. It requires considerable technical expertise, a requirement which has only been mentioned in passing, but which is just as important as the expertise that has been discussed here. The potential problems which have been mentioned here, however, must be overcome before technical expertise can be brought to bear on the system design and computer programs. These problems are social and psychological in nature and a product of the particular bureaucracy involved and the people who constitute it. Although general types of problems and suggested approaches to them have been presented along with specific examples from a few cases, it must be recognized that there are unique factors in every case which must be considered when developing and executing a strategy of design and implementation and which can't be identified beforehand. However, the general goals and objectives of a strategy which have been proposed can always be used to choose an approach to a particular problem in a specific case.

VII. CONCLUSION

In many public agencies there is a considerable lack of coordination and complete, accurate information for decision making. These are often the reasons that plans and programs designed by city planners are implemented much more slowly or ineffectively by the departments responsible for their implementation than the planners feel necessary. This situation existed in the Boston Redevelopment Authority in mid-1969, and since then an information system has been designed for the whole Authority and recently implemented in one urban renewal project.

The process used to design and implement the information system in the B.R.A. had several salient aspects which probably led to its apparent success. It was designed to be useful to personnel at the operating level of the Authority as well as those in supervisory and top management positions. The design and implementation process did not rely on constant pressure and support from top level management but developed a broad base of support at all levels. The design process was iterative, allowing time for education of personnel in the purpose, capabilities, and limitations of the system. This aspect of the process also allowed for considerable refinement of the system before it was actually established, thereby giving the system a greater chance of success than if its final design had been based on the designers' initial knowledge of the agency and its problems.

Several general factors necessary for the success of a strategy to design and implement a computerized information system in a public bureaucracy were suggested. One was that the designers of the system must be aware that they are working towards very considerable social changes as well as technological ones and that these social changes must receive considerable attention. The technological changes cannot be made completely nor yield benefits unless the associated social changes are successfully accomplished. Working in a public bureaucracy may make these social changes particularly difficult.

The system designers should work to build support at all levels of the bureaucracy. They should not rely solely on the authority of top level management, but they should not do anything that would seriously risk loss of support from the top. To build a broad base of support the existence of tension should always be recognized and capitalized upon. The system design should include components which realistically promise to relieve tension wherever possible. Unless absolutely unavoidable, the system should not threaten to aggrevate or produce tension. Among other things, this means that the system should not result in a net increase in any employee's workload.

It also may be useful to incorporate four general movements outlined by Dalton, Barnes, and Zaleznik in The Distribution of Authority in Formal Organizations into the design and implementation

strategy. These movements are from generalized goals to specific objectives, from social ties built on previous activities to ties which support the intended changes, from self doubt to self esteem, and from an external motive for change to an internalized motive for change on the part of personnel whose activities are to be changed. These movements were all found, to varying extents, in the strategy used in the B.R.A. case. Upon examination they all appeared to have been beneficial even though they were not planned.

Finally, several potential problems which might face designers of such a system were noted and possible approaches were suggested. One of these was that a new system might expose poor performance or questionable decisions in the past of which management had not been aware. Another was that a system could remove major rewards from certain types of jobs which were otherwise very unrewarding. A third was that individuals might be encountered who, in the designers' opinion, were not competent to perform the tasks required of them by the system despite the fact that the total amount of work required of this person once the system was established would be considerably less than before such establishment. There were no certain solutions proposed, but the ones which were proposed all required molding and packaging the system in such a way that it was neither socially nor psycologically threatening to employees unless absolutely necessary.

This thesis implicitly points out the general lack of hard, specific, proven ideas and approaches for dealing with the social problems of designing and implementing management information systems. Operations research and systems analysis have produced valuable information and knowledge useful in dealing with technical and formal, functional problems. Neither they nor the fields of sociology or psychology have produced comparably useful information and knowledge to deal with the socio-psychological problems of such design and implementation.

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IX. DOCUMENTS

DOCUMENT 1

Larry Kirsch

Kent Colton

July 23, 1969

The Linking of Priorities Material with a Management Control System

As the summer has proceeded, it seems that we have been working or thinking about four areas:

1. The compilation and display of priorities material
2. The utility of this material as it relates to better management systems for the BRA
3. A proposal to examine the residential development process via case studies
4. The development of some kind of program structure

I am just now beginning to formulate in my mind how these four focuses of effort relate and how they might be tied together. This memo is a rough crack at specifying my most current thinking along these lines. I have tried daily and diligently to see Mr. Champion in order to secure feedback from him on our efforts and most recent proposal, but have been totally unsuccessful. Consequently, I have gone ahead in trying to tighten up my thinking, and would suggest that the next step - depending on your appraisal of this memo - would be to make a presentation to both Mr. Champion and Mr. Warner explaining the course of action we propose and specifically illustrating its utility.

General Background and Proposal

From my limited perspective, it is my perception that at the present time several things are missing within the general overall management scheme of the BRA: (1) a sense of objectives and priorities with respect to the overall impact of the agency on the city; and (2) a clear method of control (especially in the residential area) whereby particular activities can be scheduled and activities on a parcel-by-parcel basis can be linked to an overall sense of priorities.

As a consequence, priorities and work schedules are often based on what tasks can best be accomplished at the present time, what outside commitments have already been made, how far along a particular process is in the the development process, and which "wheel squeaks the loudest." Some effort should be made to specify precisely what is happening in the BRA so that decisions can be made with full cognizance of the implications and trade-offs involved.

Therefore, I would suggest the following fourfold operation:

1. Develop a central program structure or structures which would try to define primary objectives and organize activities as they relate to these objectives.

2. Identify as clearly as possible the steps, general timing, and "process" interaction of the development process (both residential and non-residential).

3. Establish a "reporting-scheduling-control" system whereby all parcels for urban renewal projects and non-project areas are specified with respect to reuse, present status in relation to steps specified in #2, schedule of expected progress, etc. Responsibility could then be fixed for the control of this system.

4. Aggregate parcel reuse and timing information from the control system as it relates to categories of objectives specified in the program structure (#1) and utilize this information in analyzing trends and specifying BRA goals (quantified where possible).

Let me explain each aspect in greater detail along with some illustrations.

1. Program Structure

In trying to establish a basic program structure or alternative structures for the BRA, the following procedure should be pursued, ~~each~~ all steps progressing somewhat concurrently:

1. Define the objectives of the BRA and the primary areas around which objectives are centered.

2. Identify general categories or focuses of BRA activities as they relate to these objectives.

3. Specify possible BRA clientele, especially as they relate to the above items.

4. Examine and relate BRA organization and processes to objectives, activities, and clientele.

To be really meaningful and applicable, this kind of thinking should very definitely involve those at or near the top of the BRA.

To give you some idea of the kind of thing I am talking about and where we may want to begin, Attachment 1 is a general listing of possible BRA goals. In an effort to organize these goals, I have identified the following primary categories.

1. Economic revitalization of non-residential

2. Provision of satisfactory housing

3. Improve community environment and social services

4. Personal enrichment (e.g., intellectual development) and leisure time

5. Transportation (?)

6. Planning (?)

7. General administration and support

Attachment 2 elaborates this "structure" more completely and specifies objectives and considerations related to these categories.

This obviously is a very rough first attempt at any kind of possible program structure. However, I think that it does point out that once established, it may be possible to use this type of framework as a basis around which to aggregate information and examine perspectives. I will illustrate this more fully later.

2. Identify Steps in Development Process

This step relates closely to our proposal for several case studies on the residential development process. After some thought, though, it seems that to concentrate on these case studies may not be the best way to get a handle on the development process and what is going on in the BRA. The cases selected may fail to be truly representative of what is happening, and several crucial functions or steps of involvement by the BRA may be excluded. Further, most projects which begin after Mr. Champion's reorganization are still not far enough along to effectuate a detailed study. To really trace the entire history of a particular parcel would require the examination of developments starting three, four, and five years previously; and it may be difficult to track down those people most intimately involved.

As an alternative which is still closely related to our original proposal, I would suggest that we first identify the crucial steps in both the commercial and residential development process. Attachments 3 and 4 are a first crack at this kind of thing, resulting from conversations with Will Noonan and Dick Beatty. The next step would be to elaborate more completely on key actions and relationships, trying to answer the questions you raised while at the same time attempting to "PERT" chart both processes to get a more specific notion of what the "critical path" and timing relations may be.

Specific cases could then be examined within this general framework while the process identified could be utilized in #3 below.

3. "Reporting-Scheduling-Control" System

Two of the primary difficulties in compiling the material on priorities were that (1) the material submitted by project directors and central staff were not comparable or based on one common format, and (2) the final format for presentation does not lend itself to long run use and control.

I would therefore suggest that an overall master schedule for project and non-project parcels be prepared classified according reuse. A common format could be prepared, and project staff and central staff could be requested, to indicate both present status and schedules for each parcel utilizing a common format based on the step outlined in #3 above. (Will Noonan's schedule for Charlestown is one possible format and Attachments 5 and 6 show other variations.)

It is my initial impression that putting together such a listing would not be overly difficult (one or two people working with central and project staff should be able to do so in a month or two) and the rewards would be great. The priorities material we have already gathered would be a good starting point.

Once compiled we would know what the "universe" looked like in a common format and the Director and others could use this to get a very specific sense of where the BRA is going, what items are being delayed and why, and what should be done to control the Authority's operation.

4. Aggregate Parcel Reuse and Timing Information

Such a system as specified in #3 should lend itself to the aggregation of material with respect to reuse and timing. For example we should be able to say that so many units of X type housing will be produced in 1969, so many in 1970, etc. Further, these figures could be traced directly to the primary categories in the program structure discussed in #1 and goals and priorities could be set according to output. If the Director felt our input of low income housing was not going to be great enough in 1971, then he would at least have somewhere to begin in order to change

priorities and to improve expected output. With some effort and coordination with other city agencies it would probably be possible to expand our master listings to also include development activities outside those monitored by the BRA.

I realize that the fourfold proposal that I am making is far from perfect, but I do feel that it is a good first step towards linking analytical analysis and operational control in the BRA.

After seven weeks at the Authority, I have come to the conclusion that priorities, management control, program structure, and analysis must all be linked together in order to make any long-run impact or sense. A program structure only seems relevant as it serves as a way of aggregating or relating activities to objectives; case studies of the development process seem important only as they lend themselves towards long range understanding and control; and a reporting system only seems meaningful as it is tied to a central structure for control and objective oriented analysis.

ATTACHMENT 1

POSSIBLE B.R.A. GOALS

--Revitalize economic tax base
  --Revenue maximum (tax base increase) given existing tax
  --Revenue maximum (tax base increase) with different tax system

--Revitalize downtown core

--Increase employment opportunities
  --Wages - jobs
  --Maximum average/capita income
  --Income distribution thrust (job training program)

--Draw "proper" industry - commerce to city (e.g. value added)

--Provide necessary housing services
  --Provide satisfactory home and community environment

--Produce a city to be proud of -- image

--Provide liveable and enjoyable environment
  --Amenities
    --Beautification
    --Parks and Malls
  --Social Services
    --Garbage
    --Streets
    --Parking
    --Safety
    --Health
    --Sanitation

--Reducing services/capita costs of city

--Work with community and community in an effort to
  "plan with people"

--Proper overall land use

ATTACHMENT 2

POSSIBLE PROGRAM STRUCTURE

(Urban Renewal Projects Included In This Structure)

1) Economic Revitalization of non-residential

a) Kinds of non-residential development

--commercial
--industrial
--investment
--professional

b) General objectives

--Increase tax base
--Increase employment opportunity
(perhaps separate by income clientelle groupings)
(perhaps some notion with respect to wages)
--Support & improve existing industries
--Attract worthwhile new industries
(e.g. value added)
--Revitalize downtown core
--Improve general image & prestige of city
--Provide additional office space
(perhaps categorized by new - used - quality - etc.)

c) Planning and general administration and support as it relates

2) Provision of Satisfactory Housing (residential development) — Programs with subsidy — Private programs

a) Upgrade existing housing (rehab)
b) Enforce housing standards and land use regulations
c) Provision of satisfactory new housing
d) Provision of satisfactory housing (new and rehab) for particular clientelle groups:

1) Dependent persons
a) children
b) youth
c) aged
d) others
2) Income categories
a) low
b) moderate
c) middle
d) high
3) Race
4) Family structure

Possible Program Structure, continued

2) Provision of Satisfactory Housing, continued

e) Provision of housing with respect to housing goals: i.e., attract high (middle) income back into city
f) Provision of community environment and social services as related to housing
g) Planning as related to housing
h) General Administration and support as related to housing

3) Improve Community Environment and Social Services

a) Social Services
--Garbage
--Personal safety
--traffic
--fire
--police - law enforcement
--disasters
--Health
--Schools (in Item 4 also)
--Public Improvements
--Streets
b) General Amenities
--Beautification
--Parks & Malls
c) Planning, general administration, and support as related to this category

4) Personal enrichment (e.g. intellectual development) and leisure time

a) Personal enrichment (e.g. intellectual development)

--Institutional
--Educationally oriented
--Primary)
--Secondary) some sense of clientelle-- i.e. income, race, handicapped
--Higher)
--Jr. Colleges
--Liberal Arts Colleges
--Universities
--Specialized
--Medical
--Dental

4) Personal enrichment (e.g. intellectual development) and leisure time, continued

--Public Libraries
--Museums & Historical Sites

b) Leisure Time - Entertainment

--Recreational Opportunities
--Outdoor (Parks, open space, athletic playgrounds, zoos, other)
--Indoor (Recreation centers, other)
--Cultural Activities
--Museums
--Libraries
--Theatres
--Music Activities
--Other
--Other leisure time - entertainment

c) Planning, General Support & Administration as it relates

? 5) Transportation - Communication - Location

--Urban transit system
--Motor vehicle
--Pedestrian
--Water
--Air
--Location Programs
--Communications
--Planning as it relates
--General Administration and support as it relates

? 6) Planning
--Proper general land use with respect to above items and other

7) General Administration & support

ATTACHMENT 3

RESIDENTIAL DEVELOPMENT PROCESS

The general residential development process on a parcel by parcel basis seems to be as follows:

(1) Prepare overall plan, particularly as it relates to parcel in question.

(2) Acquisition

This process may vary from parcel to parcel. Some will require eminent domain and consequently Board interaction. According to Mr. Noonan the time varies but an approximate 8 month period is often involved.

(3) Relocation

Six months should be allowed for relocation from the time of acquisition. State law requires a minimum 120-day notice. This process, of course, can be a long one depending on the process and people involved (e.g. sending 30-day eviction notice which requires Board approval). Usual method is to work with those most ready to move, regardless of what site they are on.

(4) Demolition

Contracts must be let, usually including demolition for more than one parcel. Relocation must obviously occur before demolition.

(5) Advertisement

Prior to advertisement more precise decisions must be made with respect to the future of the parcel as it fits in with B.R.A. priorities. (i.e. how many dwelling units, what exact reuse, etc.) According to Will Noonan, designers put together a set of development controls which are sent to planning and development for approval. Permission must be requested of the Board to advertise.

(6) Receipt of Proposal(s)

Both planning and development are involved in the designation of a developer once proposals are received.

(7) Reuse Appraisal Obtained

(8) Preliminary Board Designation

The Board must make a preliminary designation. The whole process before and after this designation can often become politically involved.

(9) HUD Approval Reuse Price

(10) Design Review

This is a four stage process by the Planning Dept.:
--Schematics
--Preliminary Drawings
--Final Preliminary Drawings
--Working Drawings
Delay may occur at any stage along the way.

(11) Preparation of L.D.A. (Land Development Agreement)

This step occurs simultaneously with #10. The L.D.A. is prepared by "development" and the Planning Department is involved only where there is a problem or question.

(12) Final Designation of Developer

Working drawings are taken to the Board for final approval and designation.

(13) HUD approval of LDA and Deed

(14) Sell to Developer

(15) Construction Start

(16) Completion

Naturally, the actual process is far more intricate, and this simple listing of activities only begins to specify possible entanglements. (For example, a number of other agencies are almost always affected--e.g. FHA, PIC, DPW, etc.--depending on parcel, reuse, surrounding land use, etc.)

ATTACHMENT 4

NON-RESIDENTIAL DEVELOPMENT PROCESS

The general non-residential process on a parcel by parcel basis seems to include at least the following steps:

(1) Develop project concept (i.e., plan preparation both for overal area and parcel)

(2) Land assembly

(3) Obtain a zoning variance when necessary (Filed first with Zoning Board, then Board of Appeals for hearings. B.R.A. becomes involved when Board of Appeals requests their opinion).

(4) Determine City tax agreement (this is a point of crucial leverage as far as the City is concerned. Without an agreement at a given tax rate most developers will not proceed.)

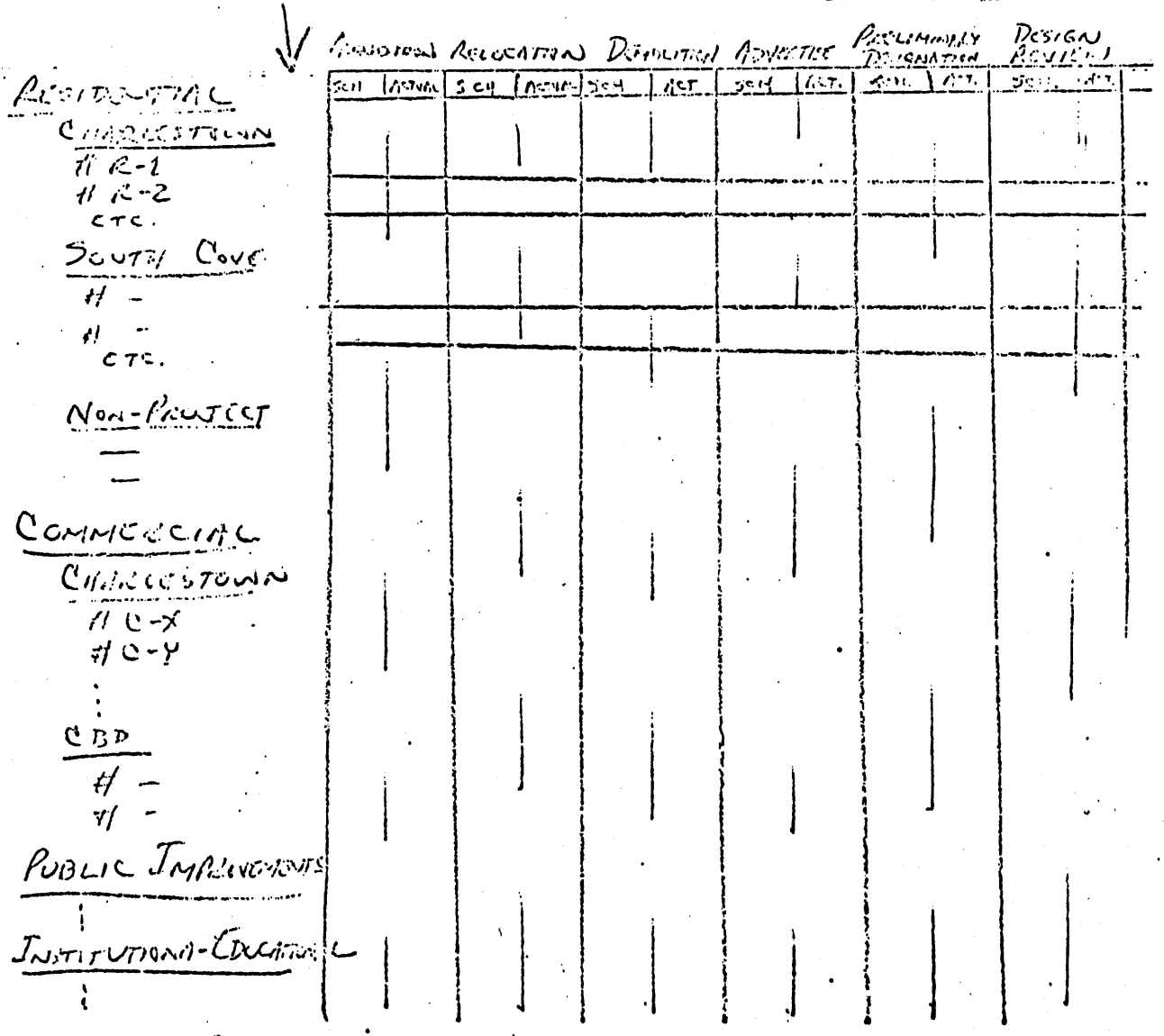
(5) Concept Design Review

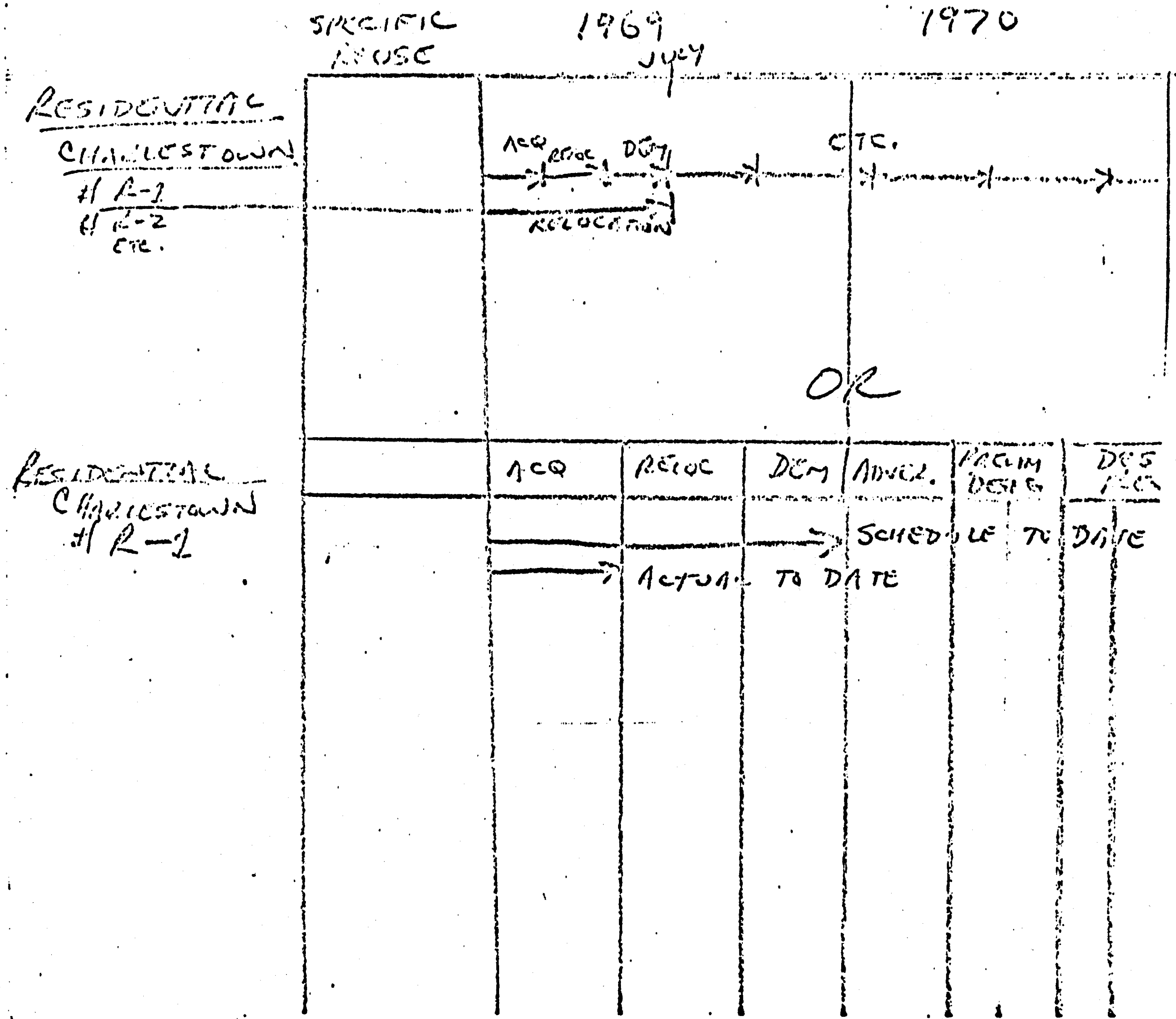
(6) Actual four stage design review:
--Preliminary
--Building drawings
--Approve materials, etc.
--Final approval of final construction drawings

(7) Other

(8) Construction Begins

The explanation of the non-residential development process is even more sketchy than the residential development process. The reason both residential & non-residential processes have been spelled out is primarily to illustrate that a definite order of events occurs which will lend itself to an overall system of control aggregated to fit into some sense of priorities.


Residential
Charlestown
#1 R-1
#1 R-2
etc.
South Cove
#1 -
#1 -
etc.
Non-Project
—
—
Commercial
Charlestown
#1 C-X
#1 C-Y
CBD
#1 -
#1 -
Public Improvements
Institutional-Educational
Conditional
Relocation
Demolition
Advertise
Preliminary Designation
Design Review
Sch
Actual
Act.


SPECIFIC REUSE
1969
JULY
1970
RESIDENTIAL
CHARLESTOWN
R-1
R-2
ETC.
ACQ
RELOC
DEM
ETC.
RELOCATION
OR
RESIDENTIAL
CHARLESTOWN
R-1
ACQ
RELOC
DEM
ADVER.
PRELIM DESIG
SCHEDULE TO DATE
ACTUAL TO DATE

DOCUMENT 2

INTER-OFFICE COMMUNICATION

TO Hale Champion

FROM Kent Colton

DATE August 11, 1969

SUBJECT A Proposal for a Housing Information and Control System

I. Proposal Summary

The management and control of a development agency such as the B.R.A. places a number of demands on top-level personnel. Due to the nature and complexity of the development process, it is difficult to establish the necessary control so that operations can be monitored, objectives determined, and particular agency activities linked to priorities. Information is required; but the B.R.A. does not even have a system to regularly supply accurate data on the number of units in production, per unit costs of development, present status and expected schedules, etc. The Information and Control System proposed here is a necessary step towards filling this gap in the area of housing.

In essence the system is built by linking information on a "parcel by parcel" basis to a general framework provided through an examination of the development process. Several aspects are central to its establishment:

(1) Although variations occur, the general development of all residential units follows a similar pattern. Milestones involved in the process can therefore be identified.

(2) Two types of information should be collected on a "parcel by parcel" basis for all urban renewal and non-urban renewal housing developments: (a) general data on reuse, physical characteristics, costs, etc., and (b) present status and scheduling information based on the milestones ~~and~~ mentioned above.

(3) Once obtained, such data can be presented and manipulated so as to display the impact of the B.R.A. on housing in Boston and to aid in the future analysis of objectives and program alternatives.

The primary benefits to the Director of the B.R.A., though, stem from the utilization of this information for management and control. First, the system will serve as an early warning system for problems and delays. Possible difficulties with zoning, relocation, the Public Improvements Commission, etc., may be spotted ahead of time; or, at least, the list of milestones will clearly reflect the fact that zoning variances, PIC hearings, etc., are involved and should be built into the development schedule. Second, the process of drawing up a development schedule and the role accorded to it (as a management device used by the Director) will force the several units within the agency to plan and coordinate their activities together rather than working at cross-purposes with different notions of priorities and lop-sided staffing capabilities. Third, the Director will be able to more clearly monitor and fix responsibility for B.R.A. activities. Fourth, internal workload information will be available as a help in answering overall staffing and planning questions related to residential development. And fifth, the system can be used to aid in setting priorities and relating agency activities to specific goals.

The benefits of such a system are great, but they do not come without costs. Staff time will be required to establish, oversee, and gather reports; and someone will be needed to direct the implementation of the system. To obtain maximum benefits new approaches to accounting and budgeting may be needed. A rough estimate of staff and timing requirements would be three people working for six months to implement the first development stage of the system.

Most important, though, the Director must lend his full force and commitment if the system is ever to be successfully established. Bureaucratic inertia within the Authority will resist change. Even though specific design and installation responsibility may be delegated, full understanding coupled with an investment of front office capital will undoubtedly be required. The Director must use the system and must communicate this fact to the agency so that it is taken seriously.

II. Explanation of the System:

There are four aspects central to the system:

A. The Identification of Milestones in the Development Process

In essence, the development process can be identified as a two part operation: the "site preparation process" and the "housing production process." (See Figure 1) "Site preparation" involves acquisition, relocation, demolition, and final site preparation while "housing production" includes all the planning, financing, and legal steps which are necessary preparations to construction. Both processes may occur simultaneously, and should be completed prior to title transfer and construction. Figure 2 flowcharts both aspects of the residential development process.

The fact that a common process exists in the development of almost all residential parcels makes it possible to pinpoint milestones in the housing production and site preparation processes. Using Figure 2 as a basic reference, the milestones listed in Figure 3 can be identified for illustrative purposes. These same landmarks will be utilized in explaining the remaining aspects of the system.

B. The Collection of Statistical and Scheduling Data

The basic unit of record for the information and control system should be the reuse parcel for both urban renewal and non-urban renewal projects.* Two types of information should be collected for each parcel: (1) present status and scheduling information, and (2) general data on reuse, physical characteristics, costs, etc.

*Special emphasis should be placed on this point: the system should be designed to include new and rehabilitated housing for both urban renewal and non-urban renewal parcels. Naturally, those parcels which are in the urban renewal pipeline may be the easiest to involve at first. However, special attempt should be made to include on a parcel by parcel basis all housing receiving federal, state, or city government aid. Further, with some effort and coordination with other city agencies (BHA, FHA, Greater Boston Real Estate Board, etc.) all residential development could eventually be included.

(1) Present status and scheduling information should be identified according to the milestones discussed above. Figure 3 lists these milestones and indicates one possible format for recording this data. The present status as well as the expected schedule for each parcel would be listed.

Schedules related to housing production and urban renewal are often difficult to maintain. Consequently, the column entitled "actual or projected complete" has been provided so that while record will be kept of the original schedule (columns "schedule start" and "schedule complete"), predictions may be constantly revised and updated when changed and unexpected delays arise.

(2) There is a wide range of general data which could be collected for each parcel on reuse, physical characteristics, costs, etc. Some of this information is readily available while other portions would be far more difficult to obtain. The information that is easily accessible or of greatest short run utility should be collected first. Other items of data that are less accessible or of more long run importance should only be identified during the first stages of implementation.

Figure 4 lists some of the possible information categories that could be included in a "housing statistical report" for each parcel. Data that might be gathered in the first round is listed on the top of the page and distinguished from information that might be collected later.

C. The Presentation and Manipulation of Data

Once scheduling and general statistical information have been gathered, a wide variety of maniuplations, aggregations and outputs are possible. At least four seem to be of primary interest and are suggested by this proposal:

(1) Expected total outputs (showing total number of dwelling units to be produced by type of housing, by year, by location, and by project area if applicable. For example, it could be said that according to the present schedule X-units of low income housing will be completed in Boston or on a particular part of Boston in 1969, so many in 1970, etc.)

(2) Expected output from various government programs (showing number of units produced by year by various housing production programs -- ie 221 (d)(3), 236, 312 loans, Chapter 121A, etc.)

(3) Output according to goals and target variables (showing number of units by year, by income classifications, by size of household accommodated, by location, etc.)

(4) Workload and scheduling implications (showing workloads at various times in each phase of the production process and indicating those phases which are most often delayed.)

Information within the system would be continually updated and reports would be disseminated to both the Director and other relevant "levels" of B.R.A. management on a regular basis.

D. Control and Management

Armed with the information outlined in B and C above, the Director of the B.R.A. will find himself in a much better position for control and management. The system will not make better decisions or ultimate evaluations, but it will go a long ways to facilitate such. The specific benefits related to this aspect of the system have already been briefly listed in Part I, "Proposal Summary."

III. Implementation

No matter how good a system such as this may be conceptually, its finally utility depends upon successful implementation. Consequently, the following "approaches to implementation" are detailed to achieve maximum usage at the lowest cost.

(1) The highest priority of the system should be the presentation of regular reports (perhaps monthly or bi-monthly) on the status of all site and housing production activities to permit improved management by the Director. However, a "levels of information" concept should be employed whereby regular outputs of data should also be made available to other levels of B.R.A. management, with the information varying according to the needs at each level.

(2) The system should be implemented to obtain almost immediate short run utility while laying the groundwork for a wide variety of long run uses.

(3) The system should be kept simple with potential users significantly involved in its development.

(4) Although the first stages of implementation should be done manually, the system is well suited to EDP and the groundwork should be laid for computer applications as soon as possible.

In order to achieve theseobjectives, stages of development are suggested. The first stage would be a rough and rapid effort to establish the system on a preliminary manual basis (perhaps six months.) While this step is proceeding, preparations should be made for later stages of long run implementations and computer applications. Throughout each aspect of development constant evaluation and necessary alternation should be made.

One final note should be made--A system which is similar in many respects to the one proposed in this document is presently being implemented by the Housing Development Administration (H.D.A.) in New York City. This tends to indicate that such a system will be feasible to establish. Their efforts should also be a great aid to the B.R.A. if a decision is made to go ahead with this proposal. The H.D.A. has already spent a great deal of time and money in this area; and members of their staff have expressed a willingness to share their knowledge, experience and mistakes with us. They are also using this type of system in order to provide data for PPBS type budgeting analysis. I would recommend the same for the B.R.A.

THE RESIDENTIAL DEVELOPMENT PROCESS

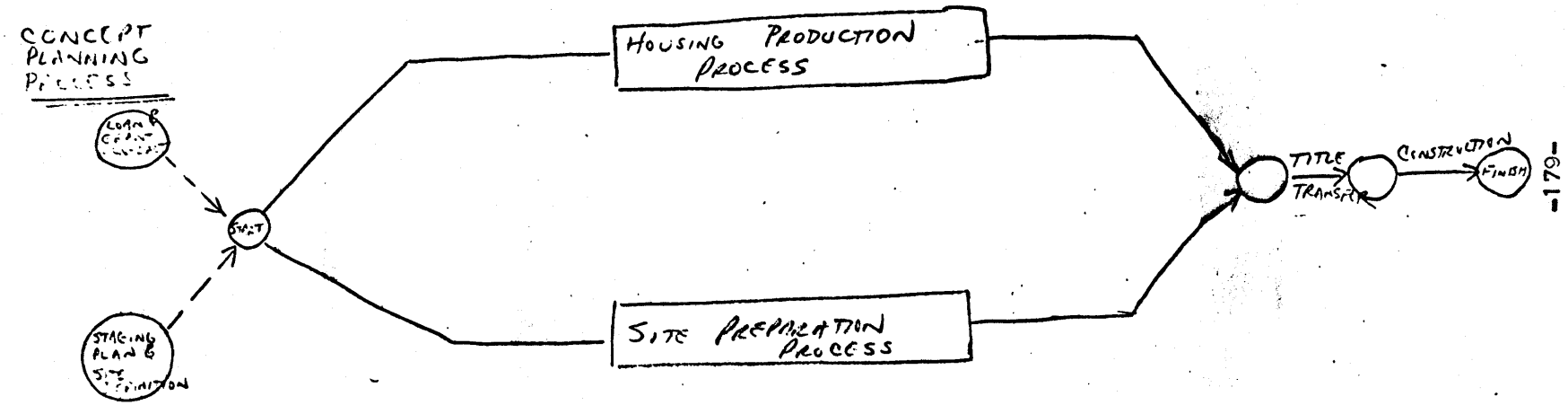


FIGURE 1

THE RESIDENTIAL DEVELOPMENT PROCESS

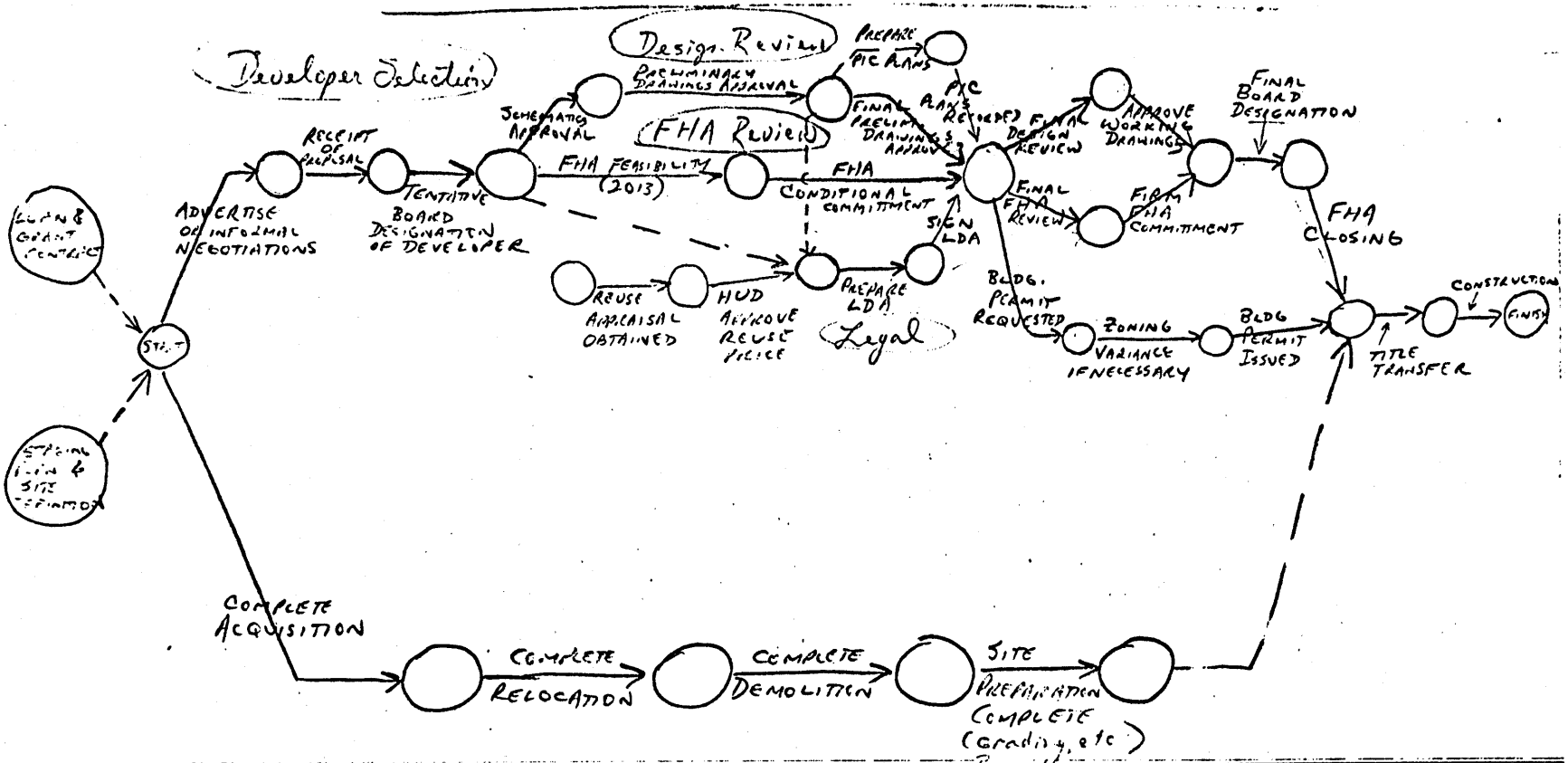


FIGURE 2

Parcel No. ________
Urban Renewal Area ________
(if applicable)
Location ________

Housing and Site Production Progress Report

Housing Production Process

Major Milestones	Schedule Start**	Schedule Complete	Actual or Projected Start	Actual or Projected Complete	Actual or Projected Duration
1- Advertise or Informal Negotiate	01/02/69	01/30/69	01/02/69*	01/30/69*	30*
2- Receipt of Sponsors Proposal	02/01/69	02/30/69	02/01/69*	02/30/69*	31*
3- Tentative BRA Board Designation			etc. ↓		
4- Sponsor Prepare Design Concept					
5- BRA Approve Preliminary Drawings					
6- FHA Approve Feasibility (2013)					
7- BRA Approve Final Preliminary Drawings					
8- FHA Approve Conditional Committ.					
9- Obtain Reuse Appraisals					
10- HUD Approve Reuse Price					
11- Prepare LDA					
12- Sign LDA					
13- BRA Approve Working Drawings					
14- Obtain Firm FHA Commitment					
15- Final BRA Board Designation					
16- FHA Closing					
17- Title Transfer					
18- Construction					

Site Preparation Process

Major Milestones	Schedule Start	Schedule Complete	Actual or Projected Start	Actual or Projected Complete	Actual or Projected Duration
1- Acquisition					
- Appraisals					
- Prepare Order Taking/Record Deeds					
2- Relocation					
3- Demolition					
- Prepare Demolition Contract					
- Award Demolition Contract					
- Complete Actual Demolition					
4- Complete Site Preparation					
- Grading					
- Boring					

This format is simply illustrative. One part of the first stage of implementation would be to more fully refine all scheduling and reporting formats.

* Indicates Actual
** [illegible]

Figure 3

Possible Information Categories To Be Included In A Parcel By Parcel Housing Statistical Report

I. Information To Be Gathered First* :

Parcel Number
New or Rehabilitation
Urban Renewal Project
Housing Financing Plan
Parcel Financing Plan
Census Tract Number
Other Location Identification
Sponsor
Rental or Coop
Lawyer
Architect
Housing Use
Zoning
Any Easily Available
  Mortgage Data
  -Total Mortgage Loan
  -Interest Rate
Number of Buildings Constructed on Parcel
Number of Dwelling Units According to Bedroom Size
Expected Rental Cost According to Bedroom Size
Number of Units to be Leased by B.H.A.
Annual Rent Supplement if any
Parcel Area (square feet)
Total Square Footage of Building
Floor Area Ratio
Total Cubage of Building
Number of Buildings Demolished on Parcel
Number of Dwelling Units (by bedroom) Demolished on Parcel
Any Easily Available Cost Data
Any Easily Available Tax Data

* Subject to the condition that information can be assembled with relative ease.

II. Information To Be Gathered Later:

Cost Data
  -Total Development Cost
  -Total Construction Cost
  -Land Acquisition Cost
  -Land Reuse Price
  -Demolition Cost
  -Relocation Cost
  -Site Preparation Cost
Mortgage Data Not Collected Already
  -Total Mortgage Loan
  -Interest Rate
  -Total Seed Money
Tax Data Not Gathered Already
  -Assessed Value New
  -Exempt Assessed Value
  -Annual Basic Taxes (Normal)
  -Actual Annual Taxes Due
  -Prior Assessed Value (A.V.)
  -Prior Taxes Paid For Previous Reuse
Other Information To Be Calculated Once Basic Data Is Obtained
  (eg. Total Development Costs/Room
  Total Development Costs/Sq. Ft.
  Land Use Price/Room
  % A.V. Paid for Acquisition)

FIGURE 4

DOCUMENT 3

A DEVELOPMENT INFORMATION AND REPORTING SYSTEM FOR THE BOSTON REDEVELOPMENT AUTHORITY

prepared by

Kent W. Colton
Lowell Richards

A DEVELOPMENT INFORMATION AND REPORTING SYSTEM FOR THE BOSTON REDEVELOPMENT AUTHORITY

Introduction

The management and control of a development agency such as the B.R.A. places a number of demands on top level personnel. Due to the nature and complexity of the development process, it is often difficult to keep track of just exactly what is happening in every parcel, to coordinate and schedule ongoing activities, and to assemble relevant information for decision making. (e.g. Gathering necessary information to show the impact of recent H.U.D. cutbacks.)

The Development Information and Reporting System (D.I.R.S.) has been designed to help meet these demands. It provides a systematic approach to the collection and distribution of information while at the same time offering a method to monitor the redevelopment process. It is also hoped that the system will eventually aid in program planning, evaluation, and goal setting.

The first step in designing the system has been the identification of the various stages involved in the redevelopment process. Based on this, forms for the gathering and dispensing of information for residential development have been designed. We are now ready to begin the collection of information and to have computer programs prepared for the filing and processing of these records.

The system is based on a five step, cyclical process: (1) Scheduling and descriptive information will be gathered for both acquisition and reuse parcels, (2) A computer file will be created for this information, (3) Reports will be generated from this file, (4) These reports will be analyzed to evaluate progress and priorities, revisions and corrections will be made, (5) Revisions will be recorded on the file and new reports will be distributed.

These five steps are outlined in the diagram on the next page (Figure 1). The details of the chart will be explained as the text proceeds.

DEVELOPMENT INFORMATION AND REPORTING SYSTEM

1) FOUR KINDS OF INFORMATION WILL BE COLLECTED:

2) A FILE WILL BE ESTABLISHED.

3) REPORTS WILL BE PREPARED AND DISTRIBUTED. DIFFERENT INFORMATION WILL GO TO DIFFERENT LEVELS OF B.R.A. MANAGEMENT.

4) THESE MATERIALS WILL BE ANALYZED AND EVALUATED. CORRECTIONS WILL BE MADE.

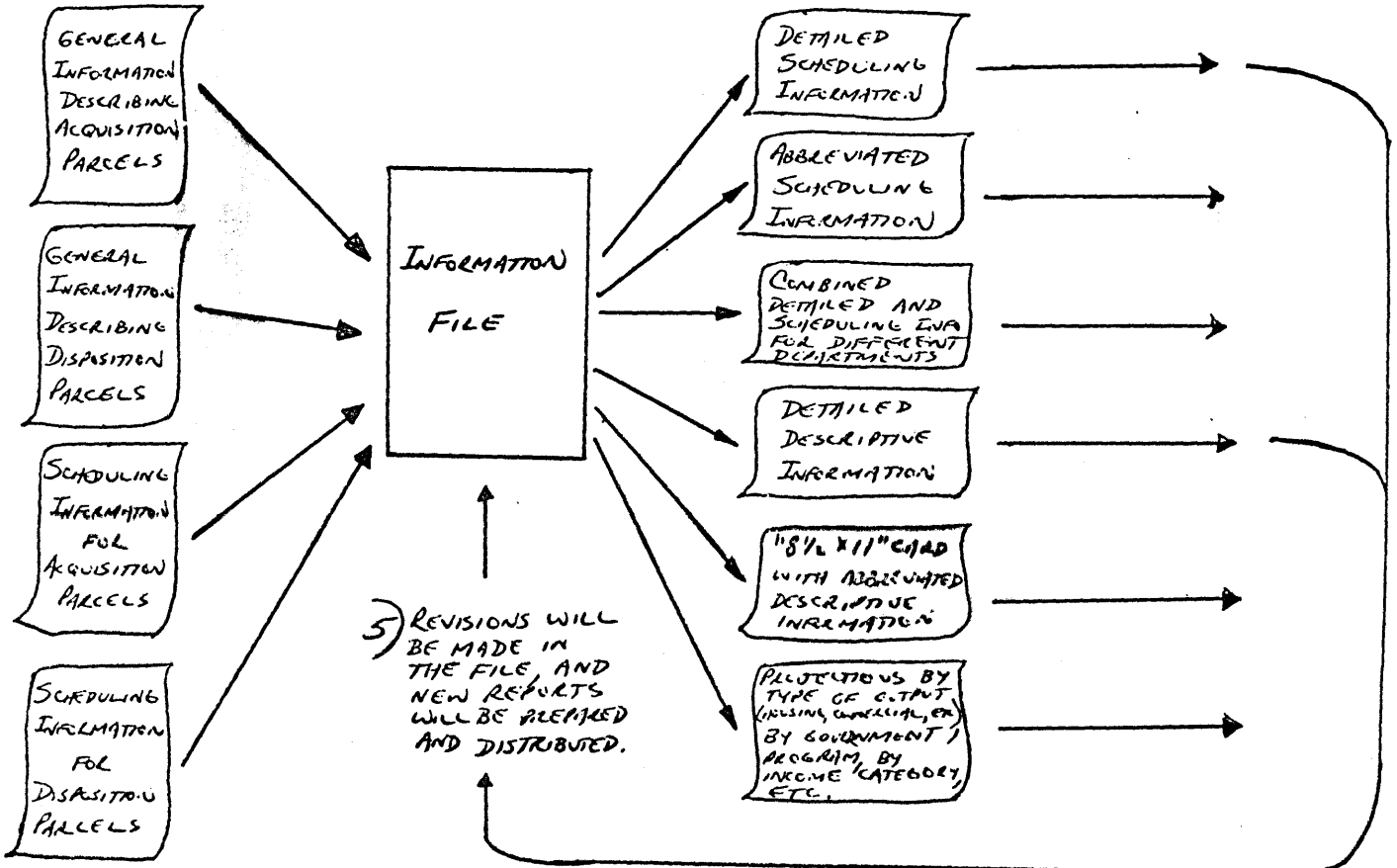


FIGURE 1

I. The Collection of Information

The redevelopment process basically involves two types of parcels, acquisition and disposition. Two types of information will be collected for both: (a) descriptive data identifying each parcel and outlining in detail such information as use, physical characteristics, costs, etc.; and (b) present status and scheduling information specifying expected starting and completion dates for the various stages of the redevelopment process.

The Collection of Descriptive Information

The forms that will be used to collect information describing acquisition and disposition parcels are found on the next two pages (Forms 1 and 2). The piece of information which is common to both forms is the Reuse Parcel Number. This will be used to cross-reference the data, especially when several acquisition parcels are assembled to form one disposition parcel.

BOSTON REDEVELOPMENT AUTHORITY
DEVELOPMENT INFORMATION & REPORTING SYSTEM
HOUSING ACQUISITION PARCEL RECORD

FORM 1

1. Address:

2. BRA Urban Renewal Project:

3. BRA Block No.: | 4. BRA Parcel No.:

5. BRA Urban Renewal Project No.: | 6. Reuse Parcel No.:

7. Project District No.: | 8. Sequence:

9. Owner Previous to BRA: _____ (name one)

_____ (name two) _____ (name three)

10. Use:
- ☐ 1. Residential
- ☐ 2. Commercial
- ☐ 3. Mixed
- ☐ 4. Industrial
- ☐ 5. Industrial/Public
- ☐ 6. Public Open Space
- ☐ 7. Vacant Land
- ☐ 8. Other _____

11. Type of Structure:
- ☐ 1. Heavy Timber & Masonry
- ☐ 2. Light Timber & Masonry
- ☐ 3. Metal Building
- ☐ 4. Wood Building
- ☐ 5. Concrete Building

12. Condition:
- ☐ 1. Sound
- ☐ 2. Deteriorating
- ☐ 3. Dilapidated

13. Zoning Classification _____ _____ _____
use far. subscript

14. Age: _____ years

	No. of Res. Dwelling Units	Monthly Rent/DU
EFF	15.	22.$
1-BR	16.	23.$
2-BR	17.	24.$
3-BR	18.	25.$
4-BR	19.	26.$
5-BR	20.	27.$
TOTAL	21.	

29. Acquisition Parcel Area _____ sq. ft.

30. No. of Bldgs. _____

31. Residential Bldg. Area _____ sq. ft.

32. Commercial Bldg. Area _____ sq. ft.

33. No. of Non-Residential Units: _____

34. No. of Families to be Relocated _____

35. No. of Families Remaining to be Relocated _____.

36. No. of Businesses to be Relocated: _____.

37. No. of Businesses Remaining to be Relocated _____.

38. Estimated Acquisition Cost: $ _____

39. Actual Acquisition Cost: $ _____

40. Estimated Relocation Cost: $ _____

41. Actual Relocation Cost: $ _____

42. Estimated Demolition Cost: $ _____

43. Actual Demolition Cost: $ _____

44. Assessor's Number: _____

45. Assessed Land Value: $ _____

46. Assessed Building Value: $ _____

47. Total Assessed Value: $ _____

48. COMMENTS:

FORM 2

BOSTON REDEVELOPMENT AUTHORITY
DEVELOPMENT INFORMATION & REPORTING SYSTEM
HOUSING DISPOSITION (REUSE) PARCEL RECORD

1. Address:

2. Name of Development:

3. BRA Urban Renewal Project:

4. BRA Urban Renewal Project No.:	5. Reuse Parcel No.:
6. Project District No.:	7. Sequence

Development Team:

8. Lawyer _____ 11. Contractor _____

9. Architect _____ 12. Developer _____

10. Owner/Sponsor _____

11. Type of Project
- ☐ 1. Federally Assisted Urban Renewal
- ☐ 2. Locally Assisted Projects
- ☐ 3. Private Project
- ☐ 4. Other

12. Use
- ☐ 1. Residential
- ☐ 2. Mixed

13. Corporate Structure
- ☐ 1. Coop
- ☐ 2. 121A Corp.

14. Type of Financing
- ☐ 1. Federally Aided
- ☐ 2. State Aided
- ☐ 3. Conventional

15. Government Program
- ☐ 1. 203(b)
- ☐ 2. 203(k)
- ☐ 3. 207
- ☐ 4. 213
- ☐ 5. 220
- ☐ 6. 220(h)
- ☐ 7. 221(d)(2)
- ☐ 8. 221(d)(3)
- ☐ 9. 221(d)(4)
- ☐ 10. 231
- ☐ 11. 235
- ☐ 12. 236
- ☐ 13. 237

	No. of Dwelling Units	Monthly Rent/DU	No. Leased By BHA
EFF	17.	24. $	31.
1-BR	18.	25. $	32.
2-BR	19.	26. $	33.
3-BR	20.	27. $	34.
4-BR	21.	28. $	35.
5-BR	22.	29. $	36.
TOTAL	23.	//////////	37.

38. Reuse Parcel Area, sq.ft. _____

39. Res. Bldg. Area, sq ft. _____

40. Comm'l Bldg. Area sq.ft. _____

41. Floor Area Ratio _____

42. Height (in stories) _____

43. No. of Bldgs. _____

44. Zoning Classification _____ (use) _____ (far.) _____ (subscript)

45. Total Construction Cost $	51. Assessor's Number
46. Total Development Cost $	52. New Assessed Value of Land $
47. Developer Land Cost $ (BRA Disposition Price)	53. New Assessed Value of Bldg. $
	54. Total New Assessed Value $
48. Total Replacement Cost $	55. Exempt Assessed Value $
49. Net Cost to BRA $	56. Payment in Lieu of Taxes $
50. Total Parcel Dev. Cost $	

57. COMMENTS:

The Collection of Scheduling Information

In order to design forms to use in collecting scheduling information, it has been necessary to trace the redevelopment process. Basically we have found that it is a three part operation: (See Figure 2, the large flowchart at the end of this paper)

(1) "Site acquisition and clearance" for acquisition parcels (involves acquisition, relocation, demolition, etc.)

(2) "Site development" for disposition parcels (includes all necessary planning, financing, and legal steps)

(3) "Site preparation" for disposition parcels (involves the various engineering and city activities included in providing streets, public utilities, private utilities, etc.)

The two forms found directly following this page have been prepared in order to collect scheduling information for the various stages of the process. Form 3 provides for schedules for "site acquisition and clearance". One form will be filled out for each parcel to be acquired. This should be done by the

project director working with Real Estate, the General Counsel's Office, Family Relocation, Business Relocation, Property Management, and Engineering.

Form 4 deals with scheduling for disposition parcels and includes the various stages for "site development" and "site preparation". These schedules should be set by the project directors and the various departments of the B.R.A. directly involved (e.g. Development, Design, Engineering, etc.) Coordination of schedules should take place through the Office of the Director of Project Operations.

Address: _____ FORM 3

B. R. A. URBAN RENEWAL PROJECT _____

B. R. A. URBAN RENEWAL PROJECT NO. _____ REUSE PARCEL NO. _____

B. R. A. Block Number _____ B. R. A. Parcel Number _____

SCHEDULING INFORMATION**

OUTLINE OF STAGES I. Site Acquisition & Clearance	Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
A. Request Acquisition Appraisals & Title Search (Project Director)			
B. Appraisals			
1. Prepare & Approve Contracts (R. E. / Board)			
2. Two Appraisals (Contractors)			
3. Review-HUD Approval (R. E. / HUD)			
C. Title Search			
1. Prepare & Approve Contracts (Gen. Coun. / Bd.)			
2. Title Search (Contractor)			
3. Review (General Counsel)			
D. Negotiation			
1. Prepare & Approve Contracts (R. E. / Board)			
2. Negotiations (Negotiator)			
E. Acquisition-Taking			
1. Acquire By Negotiation (Gen. Counsel)			
2. Order of Taking-Approval (Gen. Coun. / Bd.)			
3. Record Deeds			
4. Notify Site Office of Taking (R. E.)			
F. Family Relocation			
1. Contact & Interview Families (F. R.)			
2. Services & Development of Rehousing Plan (F. R.)			
3. Families Move (Families / F. R.)			
4. Send P. M. Vacate Notice (F. R.)			
G. Business Relocation			
1. Contact & Survey Businesses (B. R.)			
2. Services & Selection of Relocation Plan (B. R.)			
3. Businesses Move (Business / B. R.)			
4. Send P. M. Vacate Notice (B. R.)			
H. Property Management			
1. Conduct Property Survey (P. M.)			
2. Establish Use Charge-Notify (P. M.)			
3. Maintenance & Service (P. M.)			
4. Disconnect Utilities & Release (P. M.)			

** Fill in either dates (start and complete) or duration, whichever is more cr

SCHEDULING INFORMATION**

OUTLINE OF STAGES	Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
I. Site Clearance			
1. Prepare-Award Contract (Engineering/Board)			
2. Approve - HUD			
3. Notice to Proceed (Engineering)			
4. Demolition (Contractor)			
J. Grading (If Necessary)			
1. Prepare-Award Contract (Engineering/Board)			
2. Concurrence (HUD)			
3. Grading (Contractor)			
K. Boring (If Necessary)			

**Fill in either dates (start and completion) or duration, whichever is more convenient.

INPUT FORMAT: Scheduling Information on Disposition (Reuse) Parcels

FORM 4

Address: _____

B.R.A. URBAN RENEWAL PROJECT _____

B.R.A. URBAN RENEWAL PROJECT NO. _____ **REUSE PARCEL NO.** _____

SCHEDULING INFORMATION**

OUTLINE OF STAGES (Residential - FHA)	Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
I. Site Development			
A. Tentative Developer Selection			
1. Advertise/Negotiate (Project Director)			
2. Proposal Submitted (Developer)			
3. Review & Tentative Designation (Project/Development/Director/Board)			
B. Schematics Approval (BRA)			
1. Prepare Schematics (Developer)			
2. Approve Schematics (BRA Staff)			
C. FHA Pre-Application Conference (FHA Developer)			
D. Reservation of Funds (FHA)			
1. Submit 2012 (Developer)			
2. Secure Reservation (FHA)			
E. Initial Drawings & Forms Approval(BRA)			
1. Prepare Drawings & Forms(Developer)			
2. Initial Approval (BRA Staff)			
F. Feasibility (FHA)			
1. Submit 2013 (Developer)			
2. FHA Processing (FHA)			
G. Creation of Urban Renewal Subdistrict			
1. Request Petition & Board Approval (Project Director/Zoning Officer/Board)			
2. Petition Hearing (Zoning Commission)			
3. Approval (Mayor)			
H. Preliminary Approval (BRA)			
1. Prepare Plans & Forms(Developer)			
2. Preliminary Approval (BRA Staff)			
I. Conditional Commitment			
1. Submit Revised 2013 (Developer)			
2. FHA Processing (FHA)			
J. Reuse Appraisals(if necessary on FHA)			
1. Prepare Contracts - Approval BRA Land Marketing/Board/HUD			
2. Two Appraisals (Contractor)			
3. Approve Disposition Price (Board)			
4. Approve Disposition Price (HUD)			

**Fill in either dates(start and complete) or duration, whichever is more convenient

SCHEDULING INFORMATION**

OUTLINE OF STAGES (Residential - FHA)	Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
K. 121A Processing			
1. Submit Application (Developer)			
2. BRA Hearing-Approval (Board)			
3. City Approval - Incorporation Mayor/Mass. Sec. of State			
L. Land Disposition Agreement (LDA)			
1. Prepare Draft LDA (Development)			
2. Concurrence (HUD)			
3. Public Disclosure (Development)			
4. Execute LDA (Development/Developer)			
M. Building Permit			
1. Request Building Permit (Developer)			
2. Review (Building Department)			
3. Appeal-Variance Hearing if Necessary (Board of Appeal)			
4. Permit Issued (Building Department)			
N. Final Approval (BRA)			
1. Prepare Final Drawings & Specs(Developer)			
2. Review-Approval (BRA Staff)			
3. Formal Designation (Board)			
O. Final Commitment (FHA)			
1. Prepare Working Drawings (Architect)			
2. Submit Revised 2013 (Developer)			
3. FHA Processing (FHA)			
P. Early Construction If Requested			
Q. Initial Closing (FHA)			
R. Title Transfer			
II. Site Preparation			
A. Property Line Survey			
1. Prepare-Approve Contracts (Engineering/Board)			
2. Property Line Survey(Consultant)			
B. Obtain PWD Design Criteria (PWD)			

**Fill in either dates (start and complete) or duration, whichever is more convenient.

OUTLINE OF STAGES (Residential - FHA)	SCHEDULING INFORMATION** Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
C. Master Disposition & Parcel Delivery Plans			
1. Prepare-Approve Engineering Services Contract (Engineering/Board)			
2. Prepare Master Disposition Plan (Consultant/Engineering)			
3. Prepare Parcel Delivery Plan (Consultant/Engineering)			
D. Prepare Master Street Plan (Consultant/Engineering/Traffic/City)			
E. Design Basic Street Outline If Necessary (Consultant/Engineering)			
F. Public Utilities Investigation & Preliminary Plans If Necessary (Consultant/Engineering			
G. Public Improvements Commission (P. I. C.)			
1. Prepare P. I. C. Plans (Consultant)			
2. P. I. C. Hearings (P. I. C.)			
3. Mayor Sign & Record (P. I. C.)			
H. Investigate Existing Private Utilities If Necessary (Gas/Edison/Telephone)			
I. Streets & Street Furniture If Necessary			
1. Prepare Drawings (Consultant)			
2. Prepare Contracts (Engineering)			
3. Approve & Award Contracts (Engineering/Board)			
J. Public Utilities(Sewers, Water)If Necessary			
1. Prepare Drawings (Consultant)			
2. Prepare Contracts (Engineering)			
3. Approve & Award Contracts(Engineering/ Board)			
K. Plans For Private Utilities If Necessary			
1. Plans & Recommendations (Gas/Edison/Telephone)			
2. Approval (BRA/City/Consultants)			
L. Construction Street & Street Furniture (Execute Contract)If Necessary(Contractor)			

**Fill in either dates (start and complete) or duration, whichever is more convenient.

Scheduling Information on Reuse Parcels, page 4.

OUTLINE OF STAGES (Residential - FHA)	SCHEDULING INFORMATION** Est. or Actual Start (*for actual)	Est. or Actual Compl. (*for actual)	Estimated Duration
M. Construction Public Utilities (Execute Contract)If Necessary(Contractor)			
N. Construction Private Utilities If Necessary (Gas/Edison/Telephone)			
III. Construction of Building			
IV. Occupancy			

**Fill in either dates (start and complete) or duration, whichever is more convenient.

II. The Filing of Information

Information will be filed and processed using a computer system. Computer programs and the storage system will be designed to be used on the city's new electronic data processing facilities. Until these facilities are installed, the work can be done at a service bureau with a similar system.

III. The Preparation and Distribution of Output Reports

One of the basic concepts of the system is to prepare and distribute output reports in a flexible fashion so that the B.R.A. management will receive information at the level of detail which is most useful to them. Three types of output reports will be distributed: (1) reports listing the present status and future schedules of acquisition and disposition parcels, (2) various listings of descriptive information, and (3) reports for program planning and evaluation.

The chart on the following page lists six possible output reports with ideas on who will receive them and how often. The first three pertain to scheduling information; the next two relate to descriptive information; and the sixth output refers to reports for planning and evaluation. Each will be discussed in greater detail on pp. 6-9.

THE CONTENT AND DISTRIBUTION OF OUTPUT REPORTS

	Output Report	Distribution: To Whom?	Distribution: How Often?
Reports for Scheduling Information	1. Detailed scheduling information on disposition and acquisition parcels.	Project Directors Director of Project Operations Public Information Officer (perhaps a file copy to BRA Director)	Monthly (or bimonthly if it appears schedules need to be revised only every two months)
	2. Abbreviated scheduling information on acquisition and disposition parcels.	BRA Director Public Information Officer Administrator of Staff Services Executive Director of BRA Others if desired	Monthly (or bimonthly)
	3. Combination of detailed and abbreviated scheduling information (specifically tailored for each department)	Different outputs distributed to each of the following groupings of depts. a) Urban Design and Development b) Business Relocation Family Relocation Property Management c) Engineering d) Real Estate	Monthly (or bimonthly)
Reports for Descriptive Information	4. Detailed descriptive information on disposition and acquisition parcels	Project Directors Director of Project Operations Develpment Dept. Public Information Officer (perhaps a file copy to BRA Director	Semi-annual (or more often if desired or needed)
	5. "8 1/2 x 11 information card" on disposition parcels	Relevant sections of project site office (eg. B.R., F.R., P.M.) Departments within the BRA who desire and need such a card	Semi-annual
Reports for Planning and Evaluation	6. Reports for program planning and evaluation	BRA Director Director of Project Operations Administrator of Staff Services Development Dept. Project Directors Others as desired	Semi-annual or annual

Reports for Scheduling Information

The project directors and the Director of Project Operations require a detailed report listing the stages and schedules involved for each parcel. On the other hand, the Director of the Authority requires more of an overview and may desire only an abbreviated level of information. An example of the difference between a possible detailed report (the first output report listed on p. 5) and a more abbreviated one (the second output report listed on p. 5) is as follows:

Detailed Scheduling Report for Disposition Parcels

Stages	Estimated (E) or Actual (A) Start	Estimated (E) or Actual (A) Complete
I. Site Developm't		
A. Developer Selection	3/15/69 (A)	10/30/69 (A)
1. Advertise/ Negotiate	3/15/69 (A)	5/15/69 (A)
2. Submit Proposal	5/15/69 (A)	8/30/69 (A)
3. Review and Designation	9/1/69 (A)	10/30/69 (A)
B. Schematics Approval (BRA)	11/1/69 (A)	2/30/70 (E)
1. Prepare Schematics	11/1/69 (A)	1/15/70 (A)
2. Approve Schematics	1/16/69 (E)	2/30/70 (E)
C. FHA Pre-Application Conf.	11/1/69 (E)	1/20/70 (E)
D. Reservation of Funds (FHA)	1/21/70 (E)	6/1/70 (E)
1. Submit 2012	1/21/70 (E)	2/30/70 (E)
2. Secure Reservation (FHA)	3/1/70 (E)	6/1/70 (E)

Abbreviated Scheduling Report for Disposition Parcels

Stages	Estimated (E) or Actual (A) Start	Estimated (E) or Actual (A) Complete
I. Site Developm't		
A. Developer Selection	3/15/69 (A)	10/30/69 (A)
B. Schematics Approval (BRA)	11/1/69 (A)	2/30/70 (E)
C. FHA Pre-Application Conf.	11/1/69 (A)	1/20/70 (E)
D. Reservation of Funds (FHA)	1/21/70 (E)	6/1/70 (E)

A third type of scheduling report (No.3 on p. 5) may also be desireable. This would be specifically designed for the various operating departments within the B.R.A. and would combine both detailed and abbreviated information. For example, Family Relocation requires detailed scheduling information for their own part of the process, but only abbreviated information for the remainder. An example of this type of report for Family Relocation is as follows: 9.

Scheduling Report for Family Relocation for Acquisition Parcels

Stages	Estimated (E) or Actual (A) Start	Estimated (E) or Actual (A) Complete
III. Site Acquisition and Clearance		
A. Request Acquisition and Title Search		
B. Appraisals (Two)		
C. Title Search		
D. Negotiation		
E. Acquisition-Taking		
F. Family Relocation		
1. Contact & Interview Families		
2. Services & Develop Rehousing Plan		
3. Families Move		
4. Notify Site Office of Taking		
G. Business Relocation		
H. Property Management		
I. Site Clearance		
J. Grading (if Necessary)		
K. Boring (if Necessary)		

Output Reports for Descriptive Information

A detailed listing of information describing each parcel will be useful to some personnel within the Authority(No. 4 on p.5). At the same time, it became apparent in talking to people in the South End site office that a more abbreviated output was also necessary. The idea of an "8 1/2 x 11 information card" for each disposition parcel was therefore developed. (This is the fifth output report listed on p. 5). This card would be available not only for internal B.R.A. use. It could also be used in answering question from the community. A listing of the possible information to be kept on such a card is as follows:

1. Reuse Parcel Number
2. Street Address
3. Renewal Project
4. FHA Program, Section
5. Lawyer (Corporate Name)
6. Architect
7. Owner/Sponsor
8. Contractor
9. Developer
10. FHA Status
11. Tentative Acquisition Stage
12. Designation Date
13. Construction Start Date
14. Initial Occupancy Date
15. Estimated Replacement Cost (From 20B Form)
16. No. of Eff. Units
17. Rent/Eff Unit
18. No. of 1 Br. Units
19. Rent/1 Br. Units
20. No. of 2 Br. Units
21. Rent/2 Br. Unit
22. No. of 3 Br. Units
23. Rent/3 Br. Unit
24. No. of 4 Br. Units
25. Rent/4 Br. Unit
26. No. of 5 Br. Units
27. Rent/5 Br. Unit
28. Total Units
29. Commercial Footage Available
30. Total Families to be Relocated
31. Total Businesses to be Relocated
32. Families Remaining to be Relocated
33. Businesses Remaining to be Relocated

Reports for Program Planning and Evaluation

Once information has been gathered and filed, it is possible to prepare a wide variety or reports to aid in program planning and evaluation. (Reports referred to in No. 6 on p. 5). At least three seem to be of primary interest and are therefore recommended.

(1) An expected total output report (showing total number of housing, commercial, or institutional units to be produced by type, by year, by location, and by project area. For example, it could be said that according to present schedules, "X-units" of low income housing will be completed in Boston or in a particular part of Boston in 1970, so many in 1971,etc.)

(2) A report showing expected output from various government programs (for example, showing number of housing units to be produced by year by various government programs such as 221 (d) (3), 235, 236, 312 loans,etc.)

(3) A report showing progress as compared to goals and priorities (for example showing production for a particular year as compared to goals by income classifications, by size of household accomodated, by location, etc.)

IV. The Analysis and Revision of Information

Predictions for accomplishing redevelopment are often proven wrong because unexpected delays arise. Scheduling information will therefore be analyzed and revised on a regular basis. One appropriate place for such updating and analysis of data to take place is at the meetings to be held each month by the Director of Project Operations.

For the users of this system, the task of making additions and changes in the file will be kept as easy as possible. Clay Hall, in the Information Processing Section, has designed an information system for Rehabilitation in which changes are simply made with a pencil on file listings and reports. These changes are entered in the computer file and new reports are generated and distributed. D.I.R.S. will employ similar techniques.

Implementation

Implementation of the Development Information and Reporting System will begin in the South End. Flowcharts and input forms have been designed for the residential develpment process. We are now ready to begin collecting housing information and to have computer programs prepared for its filing and processing. One of the next steps in expanding the system will be to determine the various stages and forms necessary to define the system for commercial and institutional redevelopment.

The actual time involved to implement D.I.R.S. will depend on the committment from within the B.R.A. It should be very clear that although the benefits of such a system can and will be great, they will not come without effort and cost.

DOCUMENT 4

A DEVELOPMENT INFORMATION AND REPORTING SYSTEM FOR THE BOSTON REDEVELOPMENT AUTHORITY

July 14, 1970

Kent W. Colton
Lowell Richards

INTRODUCTION

The Boston Redevelopment Authority has the sole responsiblity for urban renewal within the City of Boston. The management and control of such an agency places a number of demands on top level personnel. Due to the nature of the urban renewal process, it is often difficult to keep track of just exactly what is happening regarding every urban renewal parcel, to coordinate and schedule ongoing activities, and to assemble relevant information for decision making. The Development Information and Reporting System (DIRS) has been designed to help meet these demands.

The system has four basic objectives:

1. To keep track of the status of property acquired or to be acquired by the Authority, and to collect and provide information in such a form so as to aid the effective management of such property.
2. To provide for operating and top-level personnel a check list of the various stages in the urban renewal development process (both acquisition and disposition), and to monitor the actual and estimated status of parcels regarding these various stages.
3. To serve as a framework to help coordinate urban renewal development, particularly in relating the acquisition and disposition aspects of the program.
4. To collect information for the analysis and evaluation of B.R.A. projects, and to aid in setting goals and establishing priorities in the future.

An Overall Description of the System

The implementation and overall operation of the system can be divided into two basic phases: (1) an initial phase where information is collected, computer files are established, and initial outputs and reports are generated; and (2) a cyclical update phase where outputs are revised, changes are made in the computer files, and new reports and outputs are generated.

Within these two phases there are five basic steps: (see Figure 1)

The Initial Phase:

1. Information is gathered describing both acquisition and disposition parcels.
2. Information is filed and processed using a computer system.
3. Six outputs are generated from this file. Four of these will be working documents for operating personnel within the Authority. The fifth will be a summary report for B.R.A. management, and the sixth will be a set of lists of B.R.A. owned parcels, vacant buildings, vacant apartments, etc.

The Update or Continuous Phase:

4. The four working documents will be updated and/or corrected and scheduling information will be filled in if necessary. The summary report and various lists will be analyzed to evaluate progress.
5. The revisions and corrections made in Step 4 will be recorded in the computer file and new outputs and reports will be distributed.

These five steps are outlined in the diagram on the next page (Figure 1). Some of the details, particularly regarding output reports, will be explained as the text proceeds.

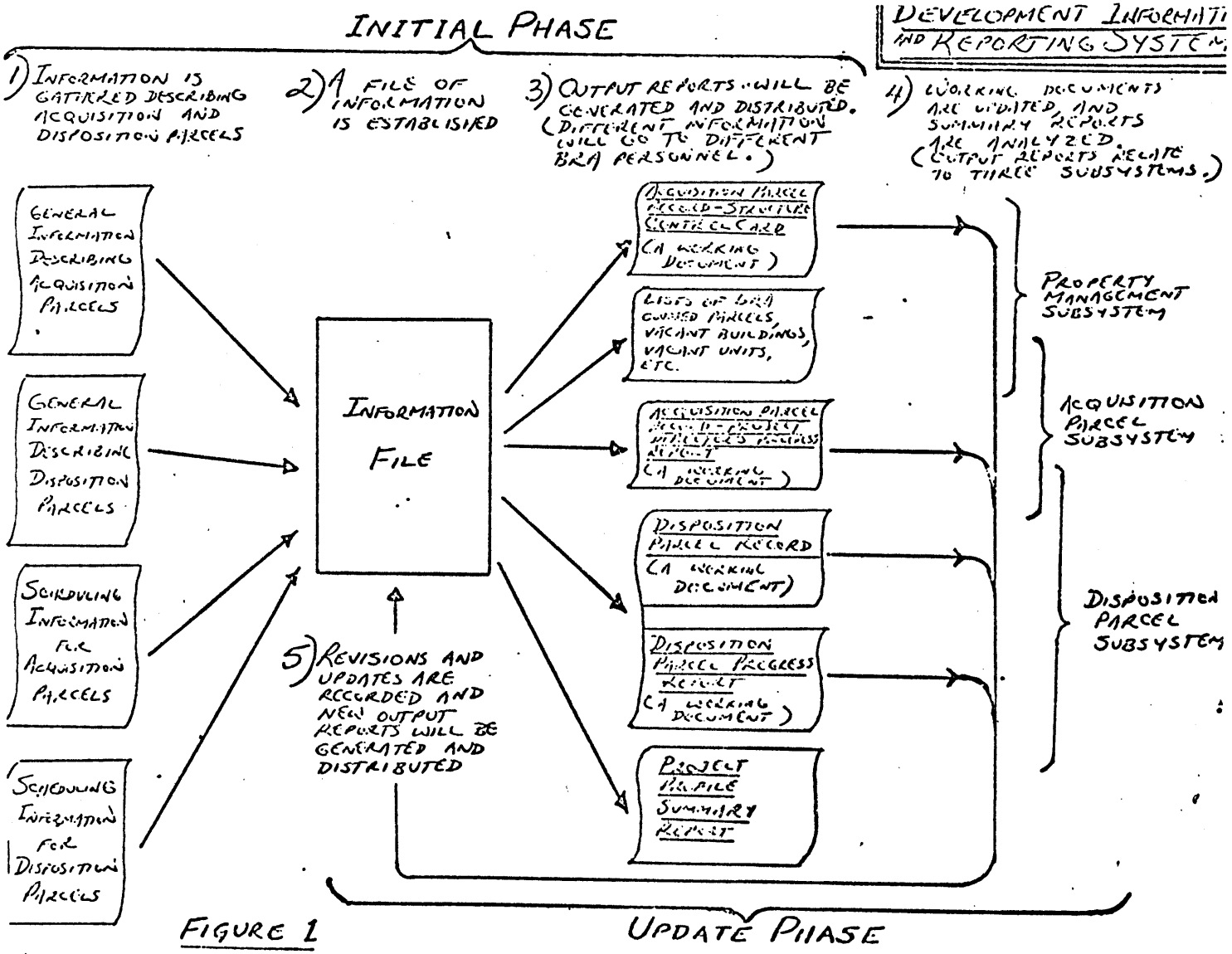

INITIAL PHASE
DEVELOPMENT INFORMATION AND REPORTING SYSTEM
1) INFORMATION IS GATHERED DESCRIBING ACQUISITION AND DISPOSITION PARCELS
2) A FILE OF INFORMATION IS ESTABLISHED
3) OUTPUT REPORTS WILL BE GENERATED AND DISTRIBUTED. (DIFFERENT INFORMATION WILL GO TO DIFFERENT BRA PERSONNEL.)
4) WORKING DOCUMENTS ARE UPDATED, AND SUMMARY REPORTS ARE ANALYZED. (OUTPUT REPORTS RELATE TO THREE SUBSYSTEMS.)
GENERAL INFORMATION DESCRIBING ACQUISITION PARCELS
GENERAL INFORMATION DESCRIBING DISPOSITION PARCELS
SCHEDULING INFORMATION FOR ACQUISITION PARCELS
SCHEDULING INFORMATION FOR DISPOSITION PARCELS
INFORMATION FILE
5) REVISIONS AND UPDATES ARE RECORDED AND NEW OUTPUT REPORTS WILL BE GENERATED AND DISTRIBUTED
ACQUISITION PARCEL RECORD-STRUCTURE CENTERLINE (CA WORKING DOCUMENT)
LISTS OF BRA OWNED PARCELS, VACANT BUILDINGS, VACANT UNITS, ETC.
ACQUISITION PARCEL RECORD-PROJECT PARCELS PROGRESS REPORT (CA WORKING DOCUMENT)
DISPOSITION PARCEL RECORD (CA WORKING DOCUMENT)
DISPOSITION PARCEL PROGRESS REPORT (CA WORKING DOCUMENT)
PROJECT PROFILE SUMMARY REPORT
PROPERTY MANAGEMENT SUBSYSTEM
ACQUISITION PARCEL SUBSYSTEM
DISPOSITION PARCEL SUBSYSTEM
UPDATE PHASE

FIGURE 1

The Output Reports Generated by the System

One of the basic purposes of the Development Information and Reporting System is to generate and distribute each of the output reports mentioned in Step 3 with a particular user in mind so that the information provided will be of maximum utility. With this in mind, the following reports will be produced:

(1) The Acquisition Parcel Record - Structure Control Card (See Figure 2):

This report is designed as a working document for the Property Management Department in the South End and will serve as their "Structure Control Card" to keep track of the status of B.R.A. owned property. The responsibility for updating the form will rest with property management.

A number of benefits will be derived from this portion of the system. First, a series of lists such as vacant land, vacant buildings, occupied buildings, vacant apartments, occupied apartments, etc. will be produced on a regular basis. Further, the system has broad potential and in the future could be used to carry out other functions for the Property Management Department such as writing and mailing bills and keeping track of unpaid rents. Finally, since less time will be required by property management personnel for maintaining files and producing lists, more time can be spent on managing property and solving specific problems.

BOSTON REDEVELOPMENT AUTHORITY
ACQUISITION PARCEL RECORD - STRUCTURE CONTROL CARD

BLOCK NO.: 583 PARCEL NO.: 5
PARCEL ADDRESS: 1824-26 WASHINGTON ST
NO. OF BUILDINGS ON PARCEL: 1 NO. OF THIS BUILDING:01
ADDRESS OF BUILDING: 1824-26WASHING

OWNER(FORMER):
MAIL ADDRESS(FORM.OWNER):

AREA OF PARCEL: 1800 SQ FT
NO. OF EMPLOYEES ON PARCEL:

COMMENTS:

DISPOSITION PARCEL NO.: 34 REUSE TYPE: UNKNOWN
BRA URBAN RENEWAL PROJECT: UNKNOWN
BRA URBAN RENEWAL PROJECT NO.: R-56 PROJ. DISTRICT NO.:

BLDG USE: COMMERCIAL GROSS FL. AREA: 6552 SQ FT
BUILDING TYPE: 3 STORY BRICK AGE: 75

* TYPE OF HEAT: #2 OIL
* # OF TANKS: CAPACITY: 0

ACQUISITION DATE: 68/03/01 DATE DEMO COMPLETE: 69/10/01
* DATE RELEASED FOR DEMO: / / DATE CONVEYED: / /

NAME OF OCCUPANT LAST NAME	FLR NO.	APT UNIT USE	NO. RMS	U & O CHARGES	ACCOUNT NO.	UTILITIES	HEAT	EFFECTIVE DATE	DATE VACATED	CONDITION
	01	COMMER		$ 300.00	830	UNKNOWN	#2 OIL	00/00/00	68/07/25	UNKNOWN
	02	COMMER		$ 5.00	828	UNKNOWN	#2 OIL	/ /	/ /	UNKNOWN
	03	COMMER		$.		UNKNOWN	#2 OIL	/ /	/ /	UNKNOWN

FIGURE 2

(2) The Acquisition Parcel Record -

Project Director's Progress Report (See Figure 3):

This report outlines the status of each acquisition parcel acquired or to be acquired by the Authority. It is designed primarily as a working document for the Project Director and contains a check-list of the various stages in the acquisition process.

Several of the dates (those with an *) are transferred automatically from the "Structure Control Card" (Figure 3), and the total number of occupied and vacant residential and non-residential units on the parcel are calculated by the system. However, the primary responsibility for updating this report lies with the Project Director's staff.

07/01/70 BOSTON REDEVELOPMENT AUTHORITY Page 13

ACQUISITION PARCEL RECORD - PROJECT DIRECTORS PROGRESS REPORT

BLOCK NO.: 563 PARCEL NO.: 5
PARCEL ADDRESS: 1824-26 WASHINGTON ST
NO. OF BUILDINGS ON PARCEL: 1
OWNER(FORM.OWNER):
MAIL ADDRESS(FORM.OWNER):

DISPOSITION PARCEL NO.: 34 REUSE-TYPE: UNKNOWN
BRA URBAN RENEWAL PROJECT: R-56
BRA-URBAN RENEWAL PROJECT NO.: R-56
PROJECT DISTRICT NO.:

BLDG USES: COMMERCI
BLDG TYPES: BRICK
BLDG AGES: 75

PROCESS STAGES AND SCHEDULE

STAGE	ACTUAL COMPLETE	ESTIMATED COMPLETE
REQUEST ACQUISITION APPRAISAL AND TITLE SEARCH(PROJ DIR):	67/03/01	
TYP APPRAISALS COMPLETE(REL.EST.):	67/10/15	
OFFERING PRICE SENT TO NY FOR HUD APPROVAL(REAL ESTATE):	/ /	
RECEIVE APPROVAL-OFF. PRICE(HUD):	69/01/03	
NEGOTIATOR ASSIGNED(RE)-NEG.BEGIN:	/ /	
ACQUIRED BY NEGOTIATIONS:	/ /	
OR REQUEST ORDER OF TAKING(PROJ D):	/ /	
ORDER OF TAKING ISSUED(BRA BD):		
DEEDS RECORDED AT REGISTRY(GEN C):	68/03/01	
NOTIFY SITE OFFICE OF TAKING(RE):	/ /	

STAGE	ACTUAL COMPLETE	ESTIMATED COMPLETE
* SEND TENANT 120 DAY LEGAL NOTICE AND USE AND OCCUPANCY CHARGE(PM):	/ /	
* LAST BUILDING VACATED:	69/02/12	
AWARD DEMOLITION CONTRACT(BRA BD):	/ /	
NOTICE FOR DEMO TO PROCEED(PROJ D):	/ /	
* ISSUE DEMOLITION RELEASE:	/ /	
NOTICE TO PROCEED-RELEASE SENT TO CONTRACTOR(ENGINEERING):	/ /	
* CERTIFICATE OF DEMO COMPLETION ISSUED(ENGINEERING):	69/10/01	
DATE CONVEYED:	/ /	
ACQUISITION OF PARCEL*CLOSED*(RE):		

ASSESSORS PARCEL NO:1639
ASSES-D LAND VALUE: $ 3,600.
ASSES-D BLDG VALUE: $ 4,400.
DEMOLITION COSTS: $ 3,000.00
ACTUAL FAMILY RELOCATION COSTS:
ESTIMATED BUS. RELOCATION COSTS: SB:
ACTUAL BUS. RELOCATION COSTS: $ 3,314.00 SB:

NO. OF EMPLOYEES:
SQUARE FOOTAGE OF PARCEL: 1600 SQ. FT.

TOTAL OCCUPIED RES. UNITS:
TOTAL VACANT RES. UNITS:
TOT. OCCUPIED NON-RES UNITS: 3
TOT. VACANT NON-RES UNITS: 3

COMMENTS:

Figure 3

(3) The Disposition Parcel Record (See Figures 4a and 4b)

The Disposition Parcel Record provides general information describing each disposition parcel. It also contains information regarding the status of the acquisition parcels found within each disposition parcel. It is designed primarily as a working document for members of the Residential and Non-Residential Development Departments. Figure 4a is the "Disposition Parcel Record" for residential development, and Figure 4b is the "Non-Residential Disposition Parcel Record." Phone numbers have even been included to assure convenience.

The information on disposition parcels will be gathered once when the system is first installed, and updating will be necessary only when changes occur. The information on acquisition parcel will be calculated by the system automatically by totalling the data on individual acquisition parcels found in the "Structure Control Card" and in the "Project Director's Progress Report."

BOSTON REDEVELOPMENT AUTHORITY - NONRESIDENTIAL DISPOSITION PARCEL RECORD

DISPOSITION PARCEL #: _____ NAME OF DEVELOPMENT: _____
BRA U.R. PROJECT: _____ BRA U.R. PROJECT #: _____
STREET BOUNDARIES: _____ DISTRICT #: __

DEVELOPMENT TEAM

	TELEPHONE #:
BRA LIAISON:	#
DEVELOPER:	#
DEVELOPER'S LAWYER:	#
ARCHITECT:	#
CONTRACTOR:	#
ENGINEER:	#
PRINCIPAL MORTGAGEE:	#

SUMMARY OF ACQUISITION STATUS

NUMBER OF ACQUISITION PARCELS IN REUSE PARCEL:
NUMBER OF ACQUISITION PARCELS NOT YET ACQUIRED:
NUMBER OF STRUCTURES STILL OCCUPIED:
NUMBER OF STRUCTURES REMAINING TO BE DEMOLISHED:
TOTAL SPENT FOR PARCELS ACQUIRED $_,___,___.__
TOTAL EST. ADDITIONAL COSTS FOR PARCELS ACQUIRED: $_,___,___.__
EST. TOTAL NECESSARY TO ACQUIRE REMAINING PARCELS: $_,___,___.__
TOTAL SPENT FOR BUS. RELOCATION: $__.___.__(SB)
EST. TOTAL FOR REMAINING BUSINESS RELOCATION: $_,___,___.__
TOTAL SPENT FOR DEMOLITION: $_,___,___.__
EST. TOTAL FOR REMAINING DEMOLITION: $_,___,___.__
TOTAL SPENT TO DATE: $__.___.___.__
EST. TOTAL REMAINING TO BE SPENT: $_,___,___.__

COMMENTS:

PROJECT DESCRIPTION

PLANNED DEVELOPMENT AREA: ___ 121A CORPORATION: ___
GROUND FLOOR USE: _____

USE	GROSS SQ FT	RENT/SQ FT	TYPE
COMMERCIAL:			
RETAIL	___,___	__.__	
OFFICE	___,___	__.__	
SERVICE	___,___	__.__	
WHOLESALE &DIST	___,___	__.__	
OTHER COMMERCIAL	___,___	__.__	
INDUSTRIAL:			
MANUFACTURING	___,___	__.__	_____
OTHER INDUSTRIAL	___,___	__.__	_____
NON-PROF INSTITUT'L:			
SCHOOL	___,___	__.__	
HOSPITAL	___,___	__.__	
OTHER GOVERNMENT	___,___	__.__	
OTHER INSTITUT'L	___,___	__.__	
PUBLIC FACILITIES:	___,___	__.__	
	xxxxxxxxxx		
TOTAL GROSS SQ FT:	_,___,___		

DISPOSITION PARCEL AREA _,___,___ SQ. FT.

FLOOR AREA RATIO: __.__ ZONING DISTRICT:
ESTIMATE NO EMPLOYED: ___,___ % MINORITY EMPLOYED:
BLDG HEIGHT IN STORIES: ___ BLDG HEIGHT IN FT:

NUMBER OF PARKING SPACES: PUBLIC: PRIVATE:

LAND COST(BRA DISP.PRICE): $__.___.___.__(COST/SQ FT:$__.)
TOTAL CONSTRUCTION COST: $__,___,___.__
OTHER COSTS (FEES,ETC.): $__,___,___.__
xxxxxxxxxxxxx
TOTAL DEVELOPMENT COST: $___,___,___.__

TOTAL OLD ASSESSED VALUE:

NEW ASSESSORS PARCEL NUMBER:
NEW ASS-D VALUE: LAND BUILDING

EXEMPT ASSESSED VALUE:
PAYMENT IN LIEU OF TAXES: YEAR:

FIGURE 46

BOSTON REDEVELOPMENT AUTHORITY - DISPOSITION PARCEL RECORD

DISPOSITION PARCEL #: 34 NAME OF DEVELOPMENT: GRANT MANOR APARTMENTS
BRA U.R. PROJECT: SO. END BRA U.R. PROJECT #: R-56 DISTRICT #: 12 FHA #: 023-55085 NP

DEVELOPMENT TEAM

BRA LAWYER: ROBERT SANDY #: 7224300 X436
ARCHITECT: BEDAR & ALPERS ASSOC #: 267-1777
OWNER/SPONSOR: GRANT A.M.E. CHURCH #: 825-3860
LAWYER FOR O/S: JOHN D. MAHONEY #: 227-8100
CONTRACTOR: KAY-LOCKE, INC. #: 286-9610
DEVELOPER: JOHN D. MAHONEY #: 227-8100
DEVELOPERS LAWYER: JOHN D. MAHONEY #: 227-8100
PRINCIPAL MORTGAGEE: SAMUEL A. JONES BEACON MORTGAGE CO. #: 232-7854
REAL EST MNGMNT CO.: #:

SUMMARY OF ACQUISITION STATUS

NUMBER OF ACQUISITION PARCELS IN DISP. PARCEL: 19
NUMBER OF ACQUISITION PARCELS NOT YET ACQUIRED: 1
OF PARCELS WITH BUILDINGS STILL OCCUPIED: 4
OF PARCELS WITH BLDGS STILL TO BE DEMOLISHED: 6
NUMBER OF BUILDINGS TO BE DEMOLISHED: 7
TOTAL SPENT FOR PARCELS ACQUIRED: $746,645.00
TOTAL EST. ADDITIONAL COST FOR PARCELS ACQUIRED:
EST. TOTAL NECESSARY TO ACQUIRE REMAINING PARCELS:
TOTAL SPENT FOR BUS. RELOCATION: $ 63,100.00 (58) $22,500.00
EST. TOTAL FOR REMAINING BUSINESS RELOCATION: $3,000.00
TOTAL SPENT FOR DEMOLITION: $74,125.00
EST. TOTAL FOR REMAINING DEMOLITION:
TOTAL SPENT TO DATE: $900,468.00
EST. TOTAL REMAINING TO BE SPENT: $5,500.00

PROJECT DESCRIPTION

USE: RES/COM FINANCE TYPE: FEDERAL
CORPORATE TAX STRUCTURE: NON-PROFIT

GOVERNMENT PROGRAM: 236

TYPE D.U.	# OF D.U.S	MONTHLY RENT/D.U. ECONOMIC	BASIC	# LEASED BY B.H.A.
EFF				
1-BR	56		$129.00	
2-BR	40		$141.00	
3-BR	60		$155.00	
4-BR	14		$162.00	
5-BR				
TOTAL	170		$ 24,432.00	

DISPOSITION PARCEL AREA: 171983 SQ. FT.
NET RESIDENTIAL FLOOR AREA: 137555 SQ. FT.
NET NON-RESIDENTIAL FLOOR AREA: 7150 SQ. FT.
TOTAL # BUILDINGS: 3 NO9 OF PARKING PLACES: 132
MAX. HEIGHT: STORIES FT. ZONING DIST.:

ESTIMATED TOTAL CONSTRUCTION COST: $ 3,790,260.00
ESTIMATED TOTAL DEVELOPMENT COST: $ 4,490,000.00
DEVELOPMENT LAND COST (BRA DISP. PRICE): $ 40,000.00
ESTIMATED TOTAL REPLACEMENT COST: $ 4,530,000.00

NEW ASSESSORS PARCEL NUMBER:
NEW ASS-D VALUE: LAND BUILDINGS
TOTAL OLD ASSESSED VALUE: $283,800.00
EXEMPT ASSESSED VALUE:
PAYMENT IN LIEU OF TAXES: YEAR:
COMMENTS:

FIGURE 4

(4) The Disposition Parcel Progress Report (Figures 5a and 5b):

The Disposition Parcel Progress Report provides a checklist of the various stages in the disposition portion of the urban renewal process. It also provides a framework for the coordination and management control of the process. The actual date complete will be recorded for each stage in the process, and estimates will be recorded for the stages where they are most applicable and useful. The primary responsibility for filling in and updating these dates will rest with the Residential and Non-Residential Development Departments of the Authority. Figure 5a is the "Disposition Parcel Progress Report" for residential development, and Figure 5b is the "Non-Residential Disposition Parcel Progress Report."

Special thought should be given to the process of updating parcel estimates. Time predictions are sometimes difficult to make, and both project and City Hall people should often be involved. Regular meetings are currently being held regarding each urban renewal project under the direction of the Administrator for Staff Services. This seems to be an appropriate place to analyze parcel progress reports and to update parcel estimates. When the next meeting is held the progress between times can be reviewed and new estimates can be made. If the appropriate people are brought together at these regular meetings, the parcel progress report will provide a useful framework to help coordinate the progress of the various aspects of the urban renewal process.

BOSTON REDEVELOPMENT AUTHORITY
DISPOSITION PARCEL PROGRESS REPORT

BRA UR PROJECT _____ UR PROJECT NO. _____ PROJECT DISTRICT NO. _____
DISPOSITION PARCEL NO. _____ FHA NO. _____ NAME OF DEVELOPMENT _____

BRA STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
TENTATIVE DEVELOPER SELECTION		
1 ADVERTISE/NEGOTIATE	--/--/--	
2 PROPOSAL(S) SUBMITTED	--/--/--	
3 REVIEW, TENTATIVE DESIGNAT'N(BD)	--/--/--	--/--/--
REUSE APPRAISALS		
1 PREPARE CONTRACTS	--/--/--	
2 APPROVE CONTRACTS (BRA BRD)	--/--/--	
3 TWO APPRAISALS	--/--/--	
4 APPROVE DISPOSITION PRICE(BRD)	--/--/--	--/--/--
SCHEMATICS APPROVAL		
1 PREPARE SCHEMATICS	--/--/--	
2 APPROVE SCHEMATICS	--/--/--	--/--/--
INITIAL DRAWINGS&FORMS APPROVAL		
1 PREPARE DRAWINGS AND FORMS	--/--/--	
2 INITIAL APPROVAL	--/--/--	
PRELIMINARY APPROVAL		
1 PREPARE PLANS AND FORMS	--/--/--	
2 PRELIMINARY APPROVAL	--/--/--	--/--/--
121A PROCESSING		
1 SUBMIT APPLICATION	--/--/--	
2 BRA HEARING APPROVAL (BRA BD)	--/--/--	--/--/--
3 CITY APPROVAL-INCORPORATION	--/--/--	
HUD APPROVE DISPOSITION PRICE		
1 SEND PROPOSED PRICE TO HUD-NYC	--/--/--	
2 RECEIVE APPROVAL	--/--/--	--/--/--
LAND DISPOSITION AGREEMENT		
1 PREPARE DRAFT LDA	--/--/--	
2 RECEIVE HUD CONCURRENCE	--/--/--	--/--/--
3 PUBLIC DISCLOSURE	--/--/--	
FINAL APPROVAL		
1 PREPARE FINAL DRAWINGS & SPECS	--/--/--	
2 REVIEW AND APPROVAL	--/--/--	
3 FORMAL DESIGNATION (BRA BOARD)	--/--/--	--/--/--
EXECUTE LAND DISPOSITION AGR'MNT	--/--/--	
TITLE TRANSFER	--/--/--	--/--/--
CONSTRUCTION		
1 FHA REQUIRED COMPLETION DATE	--/--/--	
2 BRA CERTIFIED COMPLETION DATE	--/--/--	
INITIAL OCCUPANCY	--/--/--	--/--/--

FHA STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
PRE-APPLICATION CONFERENCE	--/--/--	--/--/--
FEASIBILITY STUDY		
1 SUBMIT 2013	--/--/--	
2 FHA PROCESSING	--/--/--	
3 RECEIVE APPROVAL AND ALLOCATION	--/--/--	--/--/--
CONDITIONAL COMMITMENT (IF NEC)		
1 SUBMIT REVISED 2013 FORM	--/--/--	
2 FHA PROCESSING	--/--/--	
FINAL FHA COMMITMENT		
1 PREPARE WORKING DRAWINGS	--/--/--	
2 SUBMIT REVISED 2013 FORM	--/--/--	
3 FHA PROCESSING	--/--/--	--/--/--
INITIAL CLOSING	--/--/--	--/--/--

OTHER STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
MASTER DISPOSITION AND PARCEL DELIVERY PLANS		
1 PREPARE, APPROVE ENGINEERING CONTRACT	--/--/--	
2 PREPARE MASTER DISPOSITION PLAN	--/--/--	
3 PREPARE PARCEL DELIVERY PLAN	--/--/--	
CREATION OF URBAN RENEWAL SUBDISTRICT (IF NEC)		
1 REQUEST PETITION AND BOARD APPROVAL	--/--/--	
2 PETITION HEARING	--/--/--	
3 APPROVAL	--/--/--	--/--/--
ZONING VARIANCES AND CHANGES (IF NEC)		
1 REQUEST ZONING CHANGE	--/--/--	
2 RECEIVE ZONING CHANGE	--/--/--	--/--/--
3 REQUEST ZONING VAR.	--/--/--	
4 RECEIVE ZONING VAR.	--/--/--	--/--/--
5 REQUEST CODE VARIANCE	--/--/--	
6 RECEIVE CODE VARIANCE	--/--/--	--/--/--
PUBLIC IMPROVEMENTS COMMISSION		
1 PREPARE PIC PLANS	--/--/--	
2 PIC HEARINGS	--/--/--	--/--/--
3 MAYOR SIGN & RECORD	--/--/--	
BUILDING PERMIT		
1 REQUEST BLDG PERMIT	--/--/--	
2 REVIEW (BLDG DEPT)	--/--/--	
3 PERMIT ISSUED	--/--/--	--/--/--

NON-RESIDENTIAL DISPOSITION PARCEL PROGRESS REPORT

BRA UR PROJECT: _____ UR PROJECT NO.: _____ PROJECT DISTRICT NO.: _____

DISPOSITION PARCEL NO.: _____ NAME OF DEVELOPMENT: _____

BRA STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
TENTATIVE DEVELOPER SELECTION		
1 ADVERTISE/NEGOTIATE	--/--/--	
2 PROPOSAL(S) SUBMITTED	--/--/--	
3 REVIEW, TENTATIVE DESIGNAT'N(BD)	--/--/--	--/--/--
REUSE APPRAISALS		
1 APPROVE CONTRACTS (BRD)	--/--/--	
2 TWO APPRAISERS ASSIGNED	--/--/--	
3 TWO APPRAISALS COMPLETE	--/--/--	
4 APPROVE DISPOSITION PRICE (BRD)	--/--/--	--/--/--
SCHEMATICS APPROVAL		
1 PREPARE SCHEMATICS	--/--/--	
2 APPROVE SCHEMATICS	--/--/--	--/--/--
INITIAL DRAWINGS&FORMS APPROVAL		
1 PREPARE DRAWINGS AND FORMS	--/--/--	
2 INITIAL APPROVAL	--/--/--	
PRELIMINARY APPROVAL		
1 PREPARE PLANS AND FORMS	--/--/--	
2 PRELIMINARY APPROVAL	--/--/--	--/--/--
121A PROCESSING		
1 SUBMIT APPLICATION	--/--/--	
2 BRA HEARING APPROVAL(BRA BD)	--/--/--	--/--/--
3 CITY APPROVAL-INCORPORATION	--/--/--	
HUD APPROVE DISPOSITION PRICE		
1 SEND PROPOSED PRICE TO HUD-NYC	--/--/--	
2 RECEIVE APPROVAL	--/--/--	--/--/--
LAND DISPOSITION AGREEMENT		
1 PREPARE DRAFT LDA	--/--/--	
2 RECEIVE HUD CONCURRENCE	--/--/--	--/--/--
3 PUBLIC & FINANCIAL DISCLOSURE	--/--/--	
FINAL APPROVAL		
1 PREPARE FINAL DRAWINGS&SPECS	--/--/--	
2 REVIEW AND APPROVAL	--/--/--	
3 FORMAL DESIGNATION (BRA BOARD)	--/--/--	--/--/--
EXECUTE LAND DISPOSITION AGR'MNT	--/--/--	
EQUAL EMPLOYMENT PROCESS COMPLETE	--/--/--	
TITLE TRANSFER	--/--/--	--/--/--
CONSTRUCTION & OCCUPANCY		
1 BRA CERTIFIED COMPLETION DATE	--/--/--	
2 INITIAL OCCUPANCY	--/--/--	--/--/--

FINANCING STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
SECURE CONSTRUCTION LOAN	--/--/--	--/--/--
SECURE LONG TERM LOAN	--/--/--	--/--/--
OBTAIN DEVELOPERS "CONDITIONS PRECEDENT" MATERIALS	--/--/--	

OTHER STAGES	ACT. DATE COMPLETE	EST. DATE COMPLETE
MASTER DISPOSITION AND PARCEL DELIVERY PLANS		
1 PREPARE, APPROVE ENGINEERING CONTRACT	--/--/--	
2 PREPARE MASTER DISPOSITION PLAN	--/--/--	
3 PREPARE PARCEL DELIVERY PLAN	--/--/--	
CREATION OF URBAN RENEWAL SUBDISTRICT(IF NEC)		
1 REQUEST PETITION AND BOARD APPROVAL	--/--/--	
2 PETITION HEARING	--/--/--	
3 APPROVAL	--/--/--	
ZONING VARIANCES AND CHANGES(IF NEC)		
1 REQUEST ZONING CHANGE	--/--/--	
2 RECEIVE ZONING CHANGE	--/--/--	--/--/--
3 REQUEST ZONING VAR.	--/--/--	
4 RECEIVE ZONING VAR.	--/--/--	--/--/--
5 REQUEST CODE VARIANCE	--/--/--	
6 RECEIVE CODE VARIANCE	--/--/--	--/--/--
REGISTERED LAND PROCEDURES (IF NECESSARY)	--/--/--	
PUBLIC IMPROVEMENTS COMMISSION		
1 PREPARE PIC PLANS	--/--/--	
2 PIC HEARINGS	--/--/--	--/--/--
3 MAYOR SIGN & RECORD	--/--/--	
BUILDING PERMIT		
1 REQUEST BLDG PERMIT	--/--/--	
2 REVIEW (BLDG DEPT)	--/--/--	
3 PERMIT ISSUED	--/--/--	--/--/--

COMMENTS:

(5) Project Profile Summary Report (See Figures 6a and 6b):

A summary report will be produced for each urban renewal project each time the system is updated and new reports are generated. If the four working documents described above (Figures 2-6) are kept up to date, the summary report will be generated automatically. The report portion of the system is particularly important in producing information for the analysis and evaluation of B.R.A. projects, and in aiding management to set goals and establish priorities in the future.

The summary report (Figures 6a and 6b) consists of two pages and is divided into three parts: summary totals regarding acquisition parcels, summary totals regarding disposition parcels, and brief reports on the status of each disposition parcel.

III DISPOSITION PARCEL STATUS REPORTS

PARCEL NAME OF DEVELOPMENT	NUMBER OF ACQUISITN PARCELS	NUMBER OF ACQ PAR NOT YET ACQUIRED	NUMBER OF ACQ PAR W/OCC'D BLDGS	NUMBER OF RES UNITS STILL OCCUPIED	NUMBER OF NON-RES UNITS STILL OCCUPIED	NUMBER OF ACQ PAR W/BLDGS TO DEMO	EST TITLE TRANSF DATE	ACTUAL TITLE TRANSF DATE	EST CONSTR COMPLT DATE	ACT CONSTR COMPLT DATE
34 GREAT MANOR APARTMENTS	19	1	4	9	18					
COMMENTS: FINAL FHA APPROVAL DENIED, IT IS NOW NECESSARY TO START AGAIN WITH FHA FEASIBILITY STUDY, PROCESSING TO BE COMPLETE 70/09/01. THINGS DO NOT LOOK GOOD.										
21 ROXSE	135	0	0	0	0	0		69/09/09	70/11/01	
23,24										
COMMENTS: CONSTRUCTION DUE FOR COMPLETION FALL OF 70										
54	22	14	10	5	7	14				
COMMENTS:										
31	41	19	2	6	1					
COMMENTS:										
7	19	18	9	5	8	22				
COMMENTS										
3	6	6	2		2	2				
COMMENTS:										
2	3	3	3		7	1				
COMMENTS:										
1	44	35	11	9	7	28				
COMMENTS:										
2	201	102	18	34	19	166				
COMMENTS:										

FIGURE 6b

PROJECT PROFILE SUMMARY REPORT
SOUTH END PROJECT R-56

I SUMMARY TOTALS REGARDING ACQUISITION PARCELS

STATUS ACQUISITION		ACQUISITION COST INFORMATION	
ER OF ACQUISITION PARCELS	490	TOTAL SPENT FOR PARCELS ACQUIRED	$5490540
ER OF ACQUISITION PARCELS INING TO BE ACQUIRED	283	EST ADDITIONAL COST FOR PARCELS ACQUIRED	$ 696962
ER OF ACQUIRED PARCELS OCCUPIED BUILDINGS	61	EST COST FOR PARCELS NOT YET ACQUIRED (NUMBER OF PARCELS WITHOUT ESTIMATES: 135)	$1680429
ER OF RESIDENTIAL UNITS L OCCUPIED	71	TOTAL SPENT FOR BUSINESS RELOCATION	$ 162951
ER OF NON-RESIDENTIAL S STILL OCCUPIED	75	EST REMAINING BUSINESS RELOCATION COST	$ 101819
ER OF ACQUIRED PARCELS BUILDINGS TO DEMOLISH	291	TOTAL SPENT FOR DEMOLITION	$ 165353
		EST REMAINING DEMOLITION COST	
		TOTAL SPENT FOR ALL ABOVE COSTS	$5318856
		TOTAL OF ABOVE EST REMAINING COSTS	$2479210

II SUMMARY TOTALS REGARDING DISPOSITION PARCELS

CURRENT STATUS		ESTIMATED SCHEDULE FOR COMPLETION	JUL -DEC 1970	JAN-JUNE 1971	JULY-DEC 1971	JAN-JULY 1972
DENTIAL						
MBER OF PARCELS COMPLETE	XXX	RESIDENTIAL DWELLING UNITS	XX	XX	XX	XX
MBER OF PARCELS REMAINING TO COMPLETE	XX					
MBER OF D'U'S COMPLETE		COMMERCIAL FLOOR AREA(SQ FT)		XX	XX	XX XX
low income XXXX moderate income XXX middle & high income XX total	XXXXX	INDUSTRIAL FLOOR AREA(SQ FT)		XX	XX	XX XX
ESIDENTIAL		INSTITUTIONAL FLOOR AREA(SQ FT)		XX	XX	XX XX
MBER OF PARCELS COMPLETE		OTHER NON-RES FLOOR AREA(SQ FT)		XX	XX	XX XX
MBER OF PARCELS REMAINING TO COMPLETE	XXX					
T COMMERCIAL FLOOR AREA	SQ FT					
T INDUSTRIAL FLOOR AREA	SQ FT					
T INSTITUTIONAL FLOOR AREA	SQ FT					
T OTHER NON-RES FLOOR AREA	SQ FT					
. CONSTRUCTION SPENT TO DATE	XXXXX					
O BE SPENT FUTURE CONSTRUCTION	XXXX					
. SPENT TO DATE ON NEW DEVELOPMENT	XXXXX					
O BE SPENT FUTURE NEW DEVELOPMENT	XXX					
. RECEIVED BY BRA FROM LAND DISPOSITION	XXXXXX					

FIGURE 6a

The Continuous Operation of the System

Once the initial ouput reports are generated, the ongoing operations of the system are simply maintained by updating and revising the first four of these basic reports. If the Structure Control Card (Figure 2), the Project Director's Progress Report (Figure 3), the Disposition Parcel Record (Figures 4a, 4b), and the Disposition Parcel Progress Report (Figures 5a, 5b) are updated, then the summary reports and various listings of B.R.A. owned property will be generated automatically.

Figure 7 on the next page summarizes the continuous operations of the system by outlining the various reports that will be produced, and the frequency and location of their distribution.

THE CONTINUOUS OPERATION OF THE SYSTEM

Output Report	Distribution: Copies Received By	Information Updated By	Frequency of Update and Output
The Acquisition Parcel Record - The Structure Control Card (One Report / BRA owned bldg.)	-Director Property Mgt., S.E. -Property Mgt. Secretary and Records Clerk, S.E. -Project Directors -Project Family Relocation;S.E. -Property Mgt., City Hall		New report regenerated every month.
- Information on Building		Property Mgt. Secretary and Records Clerk.	(Generally remains the same)
- Information on Block & Parcel		Project Director's Office	(Generally remains the same)
- Information on each unit within Building		Property Mgt. Secretary and Records Clerk.	(Continually changing therefore, requires constant update)
- Dates for Property Management		Property Mgt. Secretary and Records Clerk.	(Dates added when stage occurs)
The Acquisition Parcel Record - Project Director's Progress Report (One Report / BRA owned block and parcel)	-Project Directors -Ass't. Project Director,S.E. -Property Management, S.E. -Real Estate Dept. -Administrator for Staff Services		New Report regenerated every two months.
- Information on Block & Parcel		-Project Director's Office	(Generally remains the same)
- Information on Buildings within the Parcel		-Calculated and updated automatically from info. on the Structure Control Card.	(Generally remains the same)

THE CONTINUOUS OPERATION OF THE SYSTEM (Continued)

Output Report	Distribution: Copies Received By	Information Updated By	Frequency of Update and Output
Proj. Director's Prog. Report (Cont.)			
- Process Stages and Schedule Portion of Report		-Project Director's Office.	(Should be analyzed and revised on a regular basis)
- Dates for Property Management		-Transferred automatically from "Structure Control Card" to "Project Director's Progress Report."	(Dates added by Property Management when stage occurs.
The Disposition Parcel Record (One Report / Disposition Parcel)	-Director, Residential Development. -Director, Non-Residential Development. -Appropriate personnel within the Residential & Non-Residential Development Depts. -Project Directors. -Administrator for Staff Services		New report regenerated every two months (or less often).
- Information Describing the Disposition Parcel		-Appropriate personnel within the Residential Development Depts.	(Generally remains the same)
- Information on the Acquisition Parcels found within the Disposition Parcel		-Calculated and updated automatically from information found within the Property Management Subsystem and the Acquisition Parcel Subsystem.	(Updated as information within the Property Management Subsystem and the Acquisition Parcel Subsystem are updated)

Figure 7 continued

THE CONTINUOUS OPERATION OF THE SYSTEM (Continued)

Output Report	Distribution: Copies Received By	Distribution: Information Updated By	Frequency of Update and Output
The Disposition Parcel Progress Report (One Report / Disposition Parcel)	-Director, Residential Development. -Director, Non-Residential Development. -Appropriate personnel within the Residential & Non-Residential Development Depts. -Project Directors. -Administrator for Staff Services.		
- Actual Complete dates		-Appropriate personnel within the Residential and Non-Residential Development Depts.	(Dates added when stage occur)
- Estimated Complete dates		-Appropriate personnel within the Residential and Non-Residential Development Depts. along with a recommendation that the overall report and estimates be analyzed and revised at regular meetings held under the direction of the Administrator for Staff Services.	(Dates revised at least at regular meetings held under the direction of the Administrator for Staff Services.)

Figure 7 continued

THE CONTINUOUS OPERATION OF THE SYSTEM (Continued)

Output Report	Distribution: Copies Received By	Distribution: Information Updated By	Frequency of Update and Output
Project Profile Summary Reports (One Report / Urban Renewal Proj.) - Summary totals regarding acquisition parcels. - Summary totals regarding disposition parcels. - The disposition parcel status report.	-Project Directors. -Director, Residential and Non-Residential Development. -Administrator for Staff Services. -Director, B.R.A. -Any other appropriate personnel within the B.R.A.	Reports will be calculated and generated automatically as information in the Property Management, Acquisition Parcel, and Disposition Parcel Subsystems are updated.	(New report regenerated every two months (or as often as other reports are updated).

Implementation

Implementation of the Development Information and Reporting System has begun in the South End. A preliminary test has been run using a sample set of disposition parcels. This statement has been written in part to accompany that sample. The next step will be to implement the system for important disposition parcels and throughout the remainder of the South End Project.

The actual time involved to implement D.I.R.S. will depend on the committment from within the B.R.A. It should be very clear that although the benefits of such a system can and will be great, they will not come without effort and cost.

DATE 71/03/29 BOSTON REDEVELOPMENT AUTHORITY PAGE 774

ACQUISITION PARCEL RECORD -*- STRUCTURE CONTROL CARD

BLOCK NUMBER- 551 , PARCEL NUMBER- 15

DISPOSITION PARCEL NUMBER- P17
PROPOSED REUSE TYPE- REDEVELOPMENT
B.R.A. URBAN RENEWAL PROJECT-
NAME- SOUTH END
NUMBER- R-56
DISTRICT NUMBER-

PARCEL-
ADDRESS- 1-3 BRIGGS PLACE
USE- UNKNOWN AREA- SQ.FT.
NUMBER OF BUILDINGS- 1 NUMBER OF EMPLOYEES-

OWNER MAILING ADDRESS-

BUILDING-
NUMBER- 1
ADDRESS- 1-3 BRIGGS PL.
USE- RESIDENTIAL NUMBER OF D.U.'S- 3
TYPE- 3 STORY BRICK CONDITION- DILAPIDATED
GROSS FL. AREA 1,800 SQ.FT. AGE-

ACQUISITION DATE- / /
*-RELEASED FOR DEMO- 68/09/12
*-DATE DEMO COMPLETE- 69/01/31
DATE CONVEYED- / /
DEMOLITION CONTRACT NUMBER-

*-TYPE OF HEAT- #2 OIL
*-NUMBER OF TANKS- 1 CAPACITY- 280 GAL.

-*-	OCCUPANT (LAST NAME FIRST)	FLR	APT	USE	RMS	CHARGES	ACC-NO.	UTILITIES	UNIT-HEAT	EFFECTIVE	VACATED	CONDITIONS	-*-
	VERNADO,JOE	1		RESI	0	$40.00	00007	CENTRAL HEAT	#2 OIL	67/02/01	67/04/18	-UNKNOWN-	
	LATHAM,HERBERT	2		RESI	0	$30.00	00008	CENTRAL HEAT	#2 OIL	67/02/01	67/03/01	-UNKNOWN-	
	HESTER,FRANKLIN	3		RESI	0	$44.00	00009	CENTRAL HEAT	#2 OIL	67/02/01	67/03/01	-UNKNOWN-	

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DATE 02/23/71 B O S T O N R E D E V E L O P M E N T A U T H O R I T Y PAGE 00001

A C Q U I S I T I O N P A R C E L R E C O R D -*- P R O J E C T D I R E C T O R S P R O G R E S S R E P O R T

BLOCK NUMBER- 5386 , PARCEL NUMBER- 03

PARCEL-
ADDRESS- 4 CARLETON
NUMBER OF BUILDINGS- 01

DISPOSITION PARCEL NUMBER-
PROPOSED REUSE TYPE- UNKNOWN
FORMER OWNER-

B.R.A. URBAN RENEWAL PROJECT-
NAME- SOUTH END
NUMBER- R-56
DISTRICT NUMBER- 00

ASSESSORS-PARCEL NUMBER-

- W O R K S T A G E S -	*COMPLETION DATES* -ACTUAL-	ESTIMATE
REQUEST ACQUISITION APPRAISAL AND TITLE SEARCH (PROJ DIR)	/ /	/ /
THE DATE RECEIVE TWO COMPLETE APPRAISALS (REAL ESTATE)	/ /	/ /
OFFERING PRICE SENT TO H.U.D. FOR APPROVAL (REAL ESTATE)	/ /	
THE DATE RECEIVE H.U.D. APPROVAL OF THE OFFERING PRICE	/ /	/ /
NEGOTIATOR ASSIGNED BY REAL ESTATE / NEGOTIATIONS BEGIN	/ /	
PARCEL ACQUIRED BY NEGOTIATIONS ON THE FOLLOWING DATE	/ /	
ORDER OF TAKING REQUESTED BY PROJECT DIRECTOR (PROJ DIR)	/ /	
ORDER OF TAKING ISSUED BY B.R.A. BOARD	/ /	
DEEDS RECORDED AT SUFFOLK REGISTRY (ACQUISITION DATE)	/ / ***DATE MISSING***	/ /
NOTIFY THE SITE OFFICE OF THE TAKING (REAL ESTATE)	/ /	
THE DATE ON WHICH THE LAST BUILDING WAS VACATED	70/07/31	
THE DATE THE DEMOLITION CONTRACT AWARDED (B.R.A. BOARD)	/ /	
ISSUE THE DEMO RELEASE (PROPERTY MANAGER TO ENGINEERING)	/ /	/ /
RELEASE-NOTICE FOR DEMO TO PROCEED (ENG. TO CONTRACTOR)	/ /	
ISSUE CERTIFICATE OF DEMOLITION COMPLETE (ENGINEERING)	/ /	/ /
THE DATE THE TITLE CONVEYED TO THE DISPOSITION DEVELOPER	/ /	/ /
THE DATE ACQUISITION OF THE PARCEL CLOSED BY REAL ESTATE	/ /	/ /

COMMENTS-

ASSESSED-LAND VALUE- $0, YEAR- 00
BLDG VALUE- $0

PARCEL AREA SQ FT- 0

MAX NUMBER OF EMPLOYEES

RESIDENTIAL UNITS-OCCUPIED- 0
VACANT- 1

NON-RESIDENT UNITS-OCCUPIED 0
VACANT- 0

DEMOLITION COSTS-ESTIMATED 0
ACTUAL- $.00

FAMILY RELOCATION COSTS-

ESTIMATED BUSINESS-RELOCATION- S.B.A.

ACTUAL BUSINESS-RELOCATION- $.00
S.B.A. $.00

BLDG NO.	FLRS	---USES---	---TYPES----	AGES
1	04	RESIDENTIAL	BRICK	000

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PROJ NO.	ACQUISITION BLOCK P	PARCEL	PARCEL ADDRESS	DISP. PARCEL =	DIST NO	ACQ. DATE ACT/(EST)	# OF BLDGS	ACQ. PARCEL USE	DEMO. CMPLT ACT/(EST)
R-56	516A	01	817/819 MASS	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	02	809/811 MASS.	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	03	791/805 MASS	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	04	783 MASS	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	05	786/794 ALBANY	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	06	2/12 SOUTHAMPTON, 796/798 ALBANY	X52A	00	( )	01	UNKNOWN	( )
R-56	516A	07	18 SOUTHAMPTON	X52A	00	( )	00	UNKNOWN	( )
R-56	516A	08	32 SOUTHAMPTON	X52A	00	( )	00	UNKNOWN	( )
R-56	5161	01	REAR 468-470 ALBANY ST.	51B	00	( )	00	UNKNOWN	( )
R-56	5161	01X	526-548 ALBANY ST.	48	00	( )	01	UNKNOWN	( )
R-56	5161	02	470 ALBANY ST.	51B	00	( )	00	UNKNOWN	( )
R-56	5161	02A	580-606 ALBANY ST.	48	00	( )	01	UNKNOWN	( )
R-56	5161	03 -1	486 ALBANY ST.	51B	00	( )	00	UNKNOWN	( )
R-56	5161	03 -2	486 ALBANY ST.	51B	00	( )	00	UNKNOWN	( )
R-56	5161	03X	612-624 ALBANY ST.	48	00	( )	01	UNKNOWN	( )
R-56	5161	04	498 ALBANY ST.	48	00	( )	01	UNKNOWN	( )
R-56	5161	05	512-520 ALBANY ST.	48	00	( )	01	UNKNOWN	( )
R-56	5161	06	REAR 512-520 ALBANY ST.	48	00	( )	00	UNKNOWN	( )
R-56	5161	12	624/678 ALBANY ST.	46B	00	( )	00	UNKNOWN	( )
R-56	5161	14		46B	00	( )	00	UNKNOWN	( )
R-56	5361A	03	135 DARTMOUTH ST.	10	00	( )	00	UNKNOWN	( )
R-56	5361A	03A	109/111 DARTMOUTH ST.	10	00	( )	00	UNKNOWN	( )
R-56	5361A	04	331/335 COLUMBUS AVE.	10	00	( )	00	UNKNOWN	( )
R-56	5361A	05	329 COLUMBUS AVE.	10	00	( )	00	UNKNOWN	( )
R-56	5361A	06	325/327 COLUMBUS AVE.	10	00	( )	02	UNKNOWN	( )

ACQUISITION PARCELS BY DISPOSITION PARCEL

PROJ NO.	DISP. PARCEL #	ACQUISITION BLOCK + PARCEL		PARCEL ADDRESS	DIST NO.	ACQ. DATE ACT/(EST)	# OF BLDGS	ACQ. PARCEL USE	DEMO. COMPLT ACT/(EST)
R-56	12	S561	02	91 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	03	89 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	04	87 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	05	85 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	06	83 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	07	81 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	08	79 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	09	77 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	10	75 WEST RUTLAND	00	( )	01	UNKNOWN	( )
R-56	12	S561	12	61/73 W RTLND 176/206 W NWTN	00	( )	01	UNKNOWN	( )
R-56	12	S561	13	208 WEST NEWTON	00	( )	00	UNKNOWN	( )
R-56	12	S561	14	210 WEST NEWTON	00	( )	01	UNKNOWN	( )
R-56	12	S561	15	212 WEST NEWTON	00	( )	01	UNKNOWN	( )
R-56	12	S561	16	214 WEST NEWTON	00	( )	01	UNKNOWN	( )
R-56	12	S561	17	216 WEST NEWTON	00	( )	01	UNKNOWN	( )
R-56	12	S561	18	218 WEST NEWTON	00	( )	01	UNKNOWN	( )
R-56	12	S561	19	REAR OF 220 WEST NEWTON	00	( )	00	UNKNOWN	( )
R-56	14	S7614	01A	13 BURKE	00	( )	00	UNKNOWN	( )
R-56	14	S7614	02	1001/1007 TREMONT	00	( )	01	UNKNOWN	( )
R-56	14	S7614	03	991-999 TREMONT	00	( )	00	UNKNOWN	( )
R-56	14	S7614	04	985-989 TREMONT	00	( )	06	UNKNOWN	( )
R-56	14	S7614	05	10-20 BENTON,15 BURKE	00	( )	02	UNKNOWN	( )
R-56	21	615/616	01	119/121 CAMDEN 908/912 TREMONT	00	( )	05	UNKNOWN	( )
R-56	21	619	02	794 TREMONT	00	( )	01	UNKNOWN	( )
R-56	21	619	04	798 TREMONT	00	( )	01	UNKNOWN	( )

OCCUPIED BUILDING REPORT

PROJ NO.	ACQUISITION BLOCK + PARCEL		BLDG NO	BLDG ADDRESS	DISP. PARCEL	# FLR	# DUS	OCCPD DUS	# TNKS	NET CAP.	BLDG AGE	USE	TYPE	HEAT TYPE	CONDIT.
R-56	S5B4	02	01	23 WELLINGTON		04	12	11	2	560	0	RESIDENTIAL	BRICK	#2 OIL	DETERIOR
R-56	S5B5	01	01	32 WELLINGTON	SEBP004	04	08	07	1	280	0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S5B5	02	01	392-4 MASS	SEBPRR7	06	34	27	1	5000	0	RESID/COMMER	BRICK	#5 OIL	SOUND
R-56	S5B5	02	03	400-8 MASS	SEBPRR7	04	00	01	0		0	COMMERCIAL	BRICK		SOUND
R-56	S5B5	12	02	571A COLUMBUS		05	00	01	1	280	0	COMMERCIAL	BRICK	#2 OIL	DETERIOR
R-56	S5B5	12	03	573 COLUMBUS		04	02	03	1	280	0	RESID/COMMER	UNKNOWN	UNKNOWN	DETERIOR
R-56	S7BA	15	01	2 DILWORTH	15-6,PB4	03	03	01	0		0	RESID/COMMER	BRICK	NO CENTRAL	DILAPIDA
R-56	S7BA	16	01	392 NORTHAMPTN	15-6,PB4	03	03	02	0		0	RESIDENTIAL	BRICK	#2 OIL	DETERIOR
R-56	S7BA	17	01	394 NORTHAMPTN	15-6,PB4	03	03	02	1	280	0	RESIDENTIAL			DETERIOR
R-56	S7BAA	10	01	607-9 COLUMBUS	15-6,PB4	04	07	07	1	4000	0	RESID/COMMER	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	02	613 COLUMBUS	15-6,PB4	04	08	05	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	03	615 COLUMBUS	15-6,PB4	04	08	06	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	04	617-9 COLUMBUS	15-6,PB4	04	04	04	0		0	RESID/COMMER	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	05	623 COLUMBUS	15-6,PB4	04	08	06	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	06	625 COLUMBUS	15-6,PB4	04	08	06	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BAA	10	07	627 COLUMBUS	15-6,PB4	04	08	07	0		0	RESIDENTIAL	BRICK	#2 OIL	DETERIOR
R-56	S7BC	25	01	457 MASS		05	05	01	0		0	RESIDENTIAL	BRICK	#2 OIL	UNKNOW
R-56	S7BD	06	01	599 COLUMBUS	15-6,PB4	04	09	06	1	4000	0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	02	599 COLUMBUS	15-6,PB4	04	08	06	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	03	599 COLUMBUS	15-6,PB4	03	03	01	0		0	RESIDENTIAL	BRICK	UNKNOWN	DETERIOR
R-56	S7BD	06	04	599 COLUMBUS	15-6,PB4	03	06	05	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	05	599 COLUMBUS	15-6,PB4	03	03	02	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	06	599 COLUMBUS	15-6,PB4	03	03	02	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	07	599 COLUMBUS	15-6,PB4	03	06	04	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR
R-56	S7BD	06	08	599 COLUMBUS	15-6,PB4	03	03	02	0		0	RESIDENTIAL	BRICK	#5 OIL	DETERIOR

UNOCCUPIED BUILDING REPORT

PROJ NO.	ACQUISITION BLOCK + PARCEL		BLDG NO	BLDG ADDRESS	DISP. PARCEL	= FLR	= DUS	AGE	CONDITION	BLDG AREA - SQ FT	DEMO AREA -SQ FT	RELEASED FOR DEMO	DEMO CERT ISSUED
R-56	S7810C	04	01	R-200-20CAMDEN	SEBP005	00	00	0		0	0		
R-56	S7810D	01	01	823-951TREMONT	15-6,PB4	01	00	0	DETERIORATING	7,900	119,040		
R-56	S7810D	02	01	678 COLUMBUS	15-6,PB4	02	00	0	SOUND	21,500	13,733		
R-56	S7810D	02	02	680 COLUMBUS	15-6,PB4	02	00	0	SOUND	21,600	13,733		
R-56	S7810D	03	01	696 COLUMBUS	15-6,PB4	03	00	0	SOUND	5,700	3,507		
R-56	S7810D	04	01	17 DAVENPORT	15-6,PB4	00	00	0	UNKNOWN	0	0		
R-56	S7810D	06	01	963A TREMONT	15-6,PB4	04	00	0	SOUND	1,400	868		
R-56	S7810D	06	02	965 TREMONT	15-6,PB4	04	00	0	SOUND	2,200	869		
R-56	S7810D	10	01	1-2 WESTFIELD	15-6,PB4	03	00	0	DETERIORATING	3,700	1,228		
R-56	S7810D	11	01	R 1-2 WESTFILD	15-6,PB4	00	00	0		0	0		
R-56	S7810D	12	01	817-9 TREMONT	15-6,PB4	03	00	0	DILAPIDATED	3,900	1,125		
R-56	S7810D	13	01	813-5 TREMONT	15-6,PB4	04	00	0	UNKNOWN	3,700	1,255		
R-56	S7810D	14	01	805-7 TREMONT	15-6,PB4	05	00	0	DILAPIDATED	5,800	1,932		
R-56	S7810D	15	01	803-31/2TREMNT	15-6,PB4	05	04	0	DILAPIDATED	5,800	1,932		
R-56	S7810D	16	01	801-11/2TREMNT	15-6,PB4	05	04	0	DILAPIDATED	5,800	1,932		
R-56	S7810D	17	01	144-8 CAMDEN	15-6,PB4	00	00	0		0	0		
R-56	S7811	02	01	23 WALPOLE		00	00	0	UNKNOWN	0	6,408		
R-56	S7814	02	01	1001-7 TREMONT	14	03	02	0	DILAPIDATED	4,400	3,186	70/07/15	
R-56	S7814	04	01	4 BENTON	14	03	00	0	DILAPIDATED	0	666	70/07/15	
R-56	S7814	04	02	6 BENTON	14	02	00	0	DILAPIDATED	0	666	70/07/15	
R-56	S7814	04	03	8 BENTON	14	03	00	0	DILAPIDATED	0	667	70/07/15	
R-56	S7814	04	04	985 TREMONT	14	02	00	0	DILAPIDATED	0	667		
R-56	S7814	04	05	987 TREMONT	14	03	00	0	DILAPIDATED	0	667		
R-56	S7814	04	06	989 TREMONT	14	02	00	0	DILAPIDATED	0	669		
R-56	S7814	05	01	10-2 BENTON	14	00	00	0		0	0		

OCCUPIED UNIT REPORT

PROJ NO.	ACQUISITION BLOCK	+ PARCEL	BLDG NO.	FLR	= UNIT	BLDG ADDRESS	DISP. PARCEL =	U + O CHGS	EFFECTIVE DATE	USE	ACCT NO -T/R =	OCCUPANT
R-56	S584	02	01	03	09	23 WELLINGTON		$80.00	69/12/01	RESI	01906	SMITH,JAMES
R-56	S584	02	01	04	10	23 WELLINGTON		$30.00	69/12/01	RESI	01907	SMITH,RAYMOND
R-56	S584	02	01	04	11	23 WELLINGTON		$65.00	70/09/01	RESI	01977	MENDEZ,FELEPE
R-56	S584	02	01	04	12	23 WELLINGTON		$7,010.28	69/12/01	RESI	01908	FREDRICK,WALTER
R-56	S585	01	01	01	02	32 WELLINGTON	SEBP004	$73.00	68/07/01	RESI	01038	JOHNSON,BRESFORD
R-56	S585	01	01	02	03	32 WELLINGTON	SEBP004	$75.00	68/07/01	RESI	01039	RICKER,LILLIAN
R-56	S585	01	01	02	04	32 WELLINGTON	SEBP004	$75.00	68/07/01	RESI	01040	THOMPSON,SADIE
R-56	S585	01	01	03	05	32 WELLINGTON	SEBP004	$35.00	68/07/01	RESI	01041	BYNUM,PAUL
R-56	S585	01	01	03	06	32 WELLINGTON	SEBP004	$50.00	69/04/01	RESI	01042-1	MAYO,C.
R-56	S585	01	01	04		32 WELLINGTON	SEBP004	$100.00	70/12/01	RESI	01288-2	WILLIAMS,EMMA
R-56	S585	01	01	04	08	32 WELLINGTON	SEBP004	$0.00	68/07/01	RESI	01043	REED,MARGARET
R-56	S585	02	01	01	01	392-4 MASS	SEBPRR7	$65.00	69/05/01	RESI	01409	FIGGS,
R-56	S585	02	01	01	02	392-4 MASS	SEBPRR7	$0.00	69/05/01	RESI	01410	BELCHER,EDWARD
R-56	S585	02	01	01	03	392-4 MASS	SEBPRR7	$30.00	70/09/01	RESI	01411-1	LOCKETT,IRVING
R-56	S585	02	01	01	05	392-4 MASS	SEBPRR7	$44.00	70/05/01	RESI	01963	ALEXANDER,MARY
R-56	S585	02	01	01	06	392-4 MASS	SEBPRR7	$85.00	69/05/01	COMM	01408	THE PICTURE SHOP
R-56	S585	02	01	02	08	392-4 MASS	SEBPRR7	$66.00	70/09/01	RESI	01415-1	COLEMAN,STELLA
R-56	S585	02	01	02	09	392-4 MASS	SEBPRR7	$28.00	70/09/01	RESI	01416-1	SCOTT,FLOYD
R-56	S585	02	01	02	10	392-4 MASS	SEBPRR7	$75.00	69/05/01	RESI	01417	HOBBS,
R-56	S585	02	01	03	12	392-4 MASS	SEBPRR7	$56.00	70/09/01	RESI	01419-1	WILLIAMS,LENORA
R-56	S585	02	01	03	13	392-4 MASS	SEBPRR7	$60.00	70/11/01	RESI	01420-4	RODRIGUEZ,VICTOR
R-56	S585	02	01	03	15	392-4 MASS	SEBPRR7	$70.00	69/05/01	RESI	01421	JOHNSON,JAMES
R-56	S585	02	01	03	16	392-4 MASS	SEBPRR7	$72.00	70/09/01	RESI	01422-1	NEWKIRK,JOSEPH
R-56	S585	02	01	04	17	392-4 MASS	SEBPRR7	$70.00	69/05/01	RESI	01423	PIERCE,GLADYS
R-56	S585	02	01	04	19	392-4 MASS	SEBPRR7	$48.00	70/09/01	RESI	01425-1	SLAUGHTER,ELVIRA

UNOCCUPIED UNIT REPORT

PROJ NO.	ACQUISITION BLOCK + PARCEL		BLDG NO.	FLR	UNIT	BLDG ADDRESS	DISP. PARCEL	U + U CHARGE	RMS	VACATE DATE	CONDITION	LAST USE	HEAT TYPE	UTILITIES INCLUDED
R-56	S1B1	04	01	01	1	498 ALBANY ST.	48	$1,200.00	0	67/07/01		COMM		
R-56	S1B1	04	01	01	2	498 ALBANY ST.	48	$360.00	0	70/07/01		COMM		
R-56	S1B1	04	01	01	3	498 ALBANY ST.	48	$10.00	0	68/09/17		COMM		
R-56	S1B1	04	01	88		498 ALBANY ST.	48	$10.00	0	68/09/17	-UNKN	COMM	UNKNOWN	UNKNOWN
R-56	S3B1A	06	01	02		325 COLUMBUS	10	$10.00	0	68/09/03	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	01	04		325 COLUMBUS	10	$65.00	0	68/07/22		RESI	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	01	05		325 COLUMBUS	10	$55.00	0	68/07/15	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	02	02	01	327COLUMBUS	10	$50.00	0	69/01/01	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	02	02	02	327COLUMBUS	10	$50.00	0	69/01/03	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	02	03		327COLUMBUS	10	$35.00	0	70/12/05	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	02	04		327COLUMBUS	10	$0.00	0	99/01/01	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B1A	06	02	05		327COLUMBUS	10	$30.00	0	68/10/23	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	01	02	03	01	126DARTMOUTH	11	$35.00	0	68/08/12	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B2C	01	02	03	02	126DARTMOUTH	11	$0.00	0	99/01/01	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B2C	01	02	04		126DARTMOUTH	11	$60.00	0	70/12/22	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	01	02	120DARTMOUTH	11	$0.00	0	99/01/01	-UNKN	RESI	#2 OIL	UNKNOWN
R-56	S3B2C	02	01	01	03	120DARTMOUTH	11	$90.00	0	67/08/01	-UNKN	RESI	#2 OIL	ELCT/GAS/HEAT
R-56	S3B2C	02	01	01	04	120DARTMOUTH	11	$90.00	0	67/11/16	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	01	05	120DARTMOUTH	11	$70.00	0	67/10/17	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	01	06	120DARTMOUTH	11	$0.00	0	99/01/01	-UNKN	COMM	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	02	01	120DARTMOUTH	11	$85.00	0	67/11/09	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	02	02	120DARTMOUTH	11	$75.00	0	67/11/08	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	02	03	120DARTMOUTH	11	$100.00	0	67/11/07	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	02	04	120DARTMOUTH	11	$100.00	0	67/11/15	-UNKN	RESI	#2 OIL	CENTRAL HEAT
R-56	S3B2C	02	01	02	05	120DARTMOUTH	11	$75.00	0	67/08/03	-UNKN	RESI	#2 OIL	CENTRAL HEAT

BOSTON REDEVELOPMENT AUTHORITY

RESIDENTIAL DISPOSITION PARCEL DESCRIPTION

PROJECT R-56 SOUTH END FHA NO.
PARCEL NO. 21,23,24 PARCEL LOCATION - N.HAMPTON-CAMDEN,KENDALL-HAMMOND,TREMNT-WARWK
DISTRICT DEVELOPMENT NAME - ROXSE

DEVELOPMENT TEAM

	NAME	PHONE	FIRM
BRA LAWYER-	ROBERT DEVIN	722-4300 X 436	
ARCHITECT-		868-4200 X	ARCH. COLLABORATIVE
DRNR/SPNS-		- X	ROXBURY-S.E.DEV CORP
D/S LAWYER-	VICTOR DYNOE	445-4729 X	
CONTRACTOR-	JOHN STEINBERG	742-4300 X	DCA BUILDERS, INC.
DEVELOPER -		742-4300 X	DEV CORP OF AMERICA
DEV LAWYER-	JOHN RANSOM	742-4300 X	DEV. CORP. OF AMER.
PRINC MORT-	SAMUEL A. JONES	232-7854 X	BEACON MORTAGE CO.
RE MANAGER-	ROLAND PETERS	- X	COLMAN REALTY

ACQUISITION STATUS SUMMARY

NUMBER OF ACQ. PARCELS-
- IN THIS DISP. PARCEL 0
- NOT YET ACQUIRED 0
- STILL OCCUPIED 0
- TO BE DEMOLISHED 0
- SHRD WITH OTHR DISP.S 0

BUSINESS RELOCATION COSTS-

HUD TO DATE	$0.00
HUD EST.REMAINING	$0.00
SUBTOTAL	$0.00
SBA TO DATE	$0.00
SBA EST.REMAINING	$0.00
SUBTOTAL	$0.00
TOTAL	$0.00

ACQUISITION COSTS-

- TO DATE (PAID)	$0.00
- TO DATE (OWED)	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

BUILDINGS LEFT TO DEMOLISH- 0

DEMOLITION COSTS-

- TO DATE	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

DISPOSITION PARCEL TOTAL COSTS- (ACQ + DEM)

- TO DATE	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

COMMENTS-

DISP. PARCEL USE- RES/COM GOVT PROG - 221(D)(3)
FINANCING TYPE - FHA CRP TAX STR- NON-PROFIT

DISP. PARCEL COST DATA

- ESTIMATED TOTAL CONSTRUCTION COST	$7,475,291.00
- ESTIMATED OTHER FEES AND COSTS	$0.00
- ESTIMATED TOTAL DEVELOPMENT COST	$8,790,400.00
- BRA LAND DISPOSITION PRICE ($10.58/SQ FT)	$40,000.00
- ESTIMATED TOTAL REPLACEMENT COST	$8,830,400.00

DISP. PARCEL ASSESSMENT AND TAX DATA

- NEW ASSESSORS PARCEL NUMBER
- NEW ASSESSED VALUE-

LAND	$0.00
BLDG	$0.0
TOTAL	$0.00

- TOTAL OLD ASSESSED VALUE	$0.00
- EXEMPT ASSESSD VALUE	$0.00
- PAYMENT IN LIEU OF TAXES YR- 00 AMT-	$0.00

DISP. PARCEL PHYSICAL DESCRIPTION

NO. OF BLDGS 13 BLDG MAX HGT- 8 STORIES, 75 FEET
ZONING- CURR DIST H, FAR 2.0 - PROPOSED DIST H, FAR 2.0
PARKING SPACES- PUBLIC - 0 PRIVATE - 272
DISP. PARCEL AREA- 423,477 SQ FT FT. OVER S.L. - 0
NET FLR AREA (SQ FT) RES- 317,317 NON-RES- 23,069

RESIDENTIAL DEVELOPMENT UNIT DATA

TYPE	NO.	ECONOMIC RENT	BASE RENT	LEASED-BHA
EFFCY	0	$0.00	$0.00	0
1-BR	47	$250.00	$113.00	0
2-BR	133	$285.00	$127.00	0
3-BR	114	$315.00	$146.00	0
4-BR	66	$0.00	$188.00	0
5-BR	69	$369.00	$179.00	0
TOTALS	429	$11026.00	$3605.00	0

BOSTON REDEVELOPMENT AUTHORITY

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NONRESIDENTIAL DISPOSITION PARCEL DESCRIPTION

PROJECT R-56 SOUTH END

PARCEL NO. 31A PARCEL LOCATION - *
DISTRICT DEVELOPMENT NAME - RED FEZ EXPANSION

121A CORPORATION NO
PLANNED DEV AREA

DEVELOPMENT TEAM

	NAME	PHONE		FIRM
BRA LIASON-	F. KASSMAN	267-8425	X0229	
DEVELOPER -	DR. BETHONEY	338-8446	X	RED FEZ RESTAURANT
DEV LAWYER-	MR. NADER	-	X	
ARCHITECT-	MAURY BERGMEYER	742-0940	X	BERGMEYER OPITZ ASC.
CONTRACTOR-		-	X	
ENGINEER -		-	X	
PRINC MORT-		-	X	

0 GROUND FLOOR USE- COMMERCIAL
EST. = EMPLOYED- 0, (MINORITY

ACQUISITION STATUS SUMMARY

NUMBER OF ACQ. PARCELS-
- IN THIS DISP. PARCEL 1
- NOT YET ACQUIRED 1
- STILL OCCUPIED 0
- TO BE DEMOLISHED 0
- SHRD WITH OTHR DISP.S 0

BUSINESS RELOCATION COSTS-

HUD TO DATE	$0.00
HUD EST.REMAINING	$0.00
SUBTOTAL	$0.00
SBA TO DATE	$0.00
SBA EST.REMAINING	$0.00
SUBTOTAL	$0.00
TOTAL	$0.00

ACQUISITION COSTS-

- TO DATE (PAID)	$0.00
- TO DATE (OWED)	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

BUILDINGS LEFT TO DEMOLISH- 0

DEMOLITION COSTS-

- TO DATE	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

DISPOSITION PARCEL TOTAL COSTS- (ACQ + DEM)

- TO DATE	$0.00
- EST.REMAINING	$0.00
TOTAL	$0.00

COMMENTS-

RUN BRADRS08 - MSG 803

DISP. PARCEL COST DATA

- ESTIMATED TOTAL CONSTRUCTION COST	$0.00
- ESTIMATED OTHER FEES AND COSTS	$0.00
- ESTIMATED TOTAL DEVELOPMENT COST	$0.00
- BRA LAND DISPOSITION PRICE ($0.00/SQ FT)	$0.00
- ESTIMATED TOTAL REPLACEMENT COST	$0.00

DISP. PARCEL ASSESSMENT AND TAX DATA

- NEW ASSESSORS PARCEL NUMBER		
- NEW ASSESSED VALUE-	LAND	$0.00
	BLDG	$0.00
	TOTAL	$0.00
- TOTAL OLD ASSESSED VALUE		$0.00
- EXEMPT ASSESSD VALUE		$0.00
- PAYMENT IN LIEU OF TAXES YR- 00 AMT-		$0.00

DISP. PARCEL PHYSICAL DESCRIPTION

NO. OF BLDGS 0 BLDG MAX HGT- 0 STORIES, 0 FEET
ZONING- CURR DIST M, FAR 2.0 - PROPOSED DIST M, FAR 2.0
PARKING SPACES- PUBLIC - 0 PRIVATE - 0
DISP. PARCEL AREA- 11,790 SQ FT FT. OVER S.L. - 0
NET FLR AREA (SQ FT) RES- 0 NON-RES- 0

COMMERCIAL-	SQ FT	RENT/SQFT	NON-PROFIT INSTIT-	SQ FT	RENT/SQFT
RETAIL	0	$0.00			
OFFICE	0	$0.00	SCHOOL	0	$0.00
SERVICE	6300	$0.00	HOSP.	0	$0.00
WHLSL/DST	0	$0.00	OTH GOVT	0	$0.00
OTHER	0	$0.00	OTH INST	0	$0.00

INDUSTRIAL-	SQ FT	RENT/SQFT	TYPE
MANUFACTURING	0	$0.00	UNKNOWN
NON MANUFACT-	0	$0.00	UNKNOWN

PUB FACILITIES- 0 SQFT STRTS/SIDEWLKS- 0 SQFT
MAJ TRANS IMPRV- 0 SQFT RDWYS/RT O WAY- 0 SQFT
TOTAL GROSS SQ- FT.

BOSTON REDEVELOPMENT AUTHORITY

DISPOSITION PARCEL PROGRESS REPORT

PROJECT R-56 SOUTH END
PARCEL = 21,23,24
DISTRICT

FHA = -[.023-55147NP-AMP

PARCEL LOCATION - N.HAMPTON-CAMDEN,KENDALL-HAMMOND,TREMNT-WARWK
DEVELOPMENT NAME - ROXSE

********** BRA WORK STAGES **********			ACT.DATE COMPLETE	EST.DATE COMPLETE
TENTATIVE DEVELOPER SELECTION	1.	ADVERTISE OR NEGOTIATE	/ /	
	2.	PROPOSALS SUBMITTED	/ /	
	3.	BRD REVIEW, TEN. DESIGNATION	67/05/18	/ /
REUSE APPRAISALS	1.	BOARD APPROVAL OF CONTRACTS	/ /	
	2.	ASSIGN TWO APPRAISERS	/ /	
	3.	TWO APPRAISALS COMPLETE	/ /	
	4.	BRD APPRVL, DISPOSITION PRICE	/ /	/ /
SCHEMATICS DESIGN	1.	PREPARE SCHEMATICS	68/01/30	
	2.	APPROVE SCHEMATICS - OFTEN BRD	/ /	/ /
DESIGN DEVELOPMENT	1.	PREPARE DRAWINGS AND FORMS	68/07/02	
	2.	INITIAL APPROVAL	/ /	/ /
PRELIMINARY BRD DRWGS	1.	PREPARE PRELIM DRWGS - SPECS	/ /	
	2.	PRELIMINARY APPROVAL	/ /	/ /
APPLICATION FOR 121A CORP.	1.	SUBMIT APPLICATION	68/07/10	
	2.	BRA BRD HEARING AND APPROVAL	68/11/07	/ /
	3.	CITY APPROVAL - INCORPORATION	68/11/21	
HUD APPROVE DISP PRICE	1.	SEND PROPOSED PRICE TO HUD	/ /	
	2.	RECEIVE HUD APPROVAL OF PRICE	69/01/16	/ /
LAND DISPOSITN AGREEMENT	1.	SEND LDA TO HUD	/ /	
	2.	RECEIVE HUD CONCURRENCE	68/12/23	/ /
	3.	PUBLIC DISCLOSURE	68/12/28	
FINAL APPROVAL	1.	PREPARE FINAL DRWGS AND SPECS	/ /	
	2.	BRA BRD - FORMAL DESIGNATION	68/12/12	/ /
AND DONOT FORGET -	1.	BHA PROCESSING	/ /	
	2.	CONFIRMATORY TAKING	/ /	
	3.	EQUAL OPPORTUNITY PROCESSING	/ /	
- - - CALCUTE LAND DISPOSITION AGREEMENT - - -			69/09/09	/ /
CONSTRUCTION	1.	BEGIN CONSTRUCTION	/ /	/ /
CONSTRUCTION OCCUPANCY	1.	BEGIN CONSTRUCTION	/ /	/ /
	3.	BRA CERTIFIED COMPLETE DATE	/ /	
	4.	INITIAL OCCUPANCY	/ /	/ /
* * * * T-I-T-L-E T-R-A-N-S-F-E-R * * * *			/ /	/ /

COMMENTS -

********** SITE PREPARATION WORK STAGES **********			ACT.DATE COMPLETE	EST.DATE COMPLETE
MAST. DISP. AND PARCEL DELIVERY	1.	PREP/APPROVE ENG. CONTRCT	/ /	
	2.	PREPARE MASTER DISP. PLAN	/ /	
	3.	PREP PARCEL DELIVERY PLAN	/ /	
CREATE OR SUBDISTRCT IF NEEDED	1.	ASK PETITION/BRD APPROVAL	/ /	
	2.	PETITION HEARING	/ /	
	3.	APPROVAL OF PETITION	/ /	
ZONING VARIANCES AND CHANGES (WHERE NEEDED)	1.	ASK ZONING CHANGE	/ /	
	2.	RECEIVE ZONING CHANGE	/ /	/ /
	3.	ASK ZONING VARIANCE	/ /	
	4.	RECEIVE ZONING VARIANCE	/ /	/ /
	5.	ASK CODE CHANGE	/ /	
	6.	RECEIVE CODE CHANGE	/ /	/ /
PUBLIC IMPROVMENT COMMISION	1.	PREPARE PIC PLANS	/ /	
	2.	PIC HEARINGS	/ /	/ /
	3.	SIGNED + RECORDED - MAYOR	/ /	
GET BUILDING PERMIT	1.	REQUEST BUILDING PERMIT	/ /	
	2.	REVIEW BY BUILDING DEPT.	/ /	
	3.	BLDG. PERMIT ISSUED	/ /	/ /

********** FINANCIAL STAGES **********			ACT.DATE COMPLETE	EST.DATE COMPLETE
FHA PREAPPLICATION CONFERENCE			/ /	/ /
FEASIBILITY STUDY-FUND ALLOCATION	1.	SUBMIT FORM 2013	67/12/01	
	2.	FHA PROCESSING COMPLETE	/ /	
	3.	RECEIVE APPROVAL/ALLOCATN	68/02/25	/ /
CONDITIONAL COMMITMENT	1.	SUBMIT REVISED FORM 2013	/ /	
	2.	FHA PROCESSING	/ /	/ /
FHA FIRM COMMITMENT	1.	PREPARE WORKING DRAWINGS	/ /	
	2.	SUBMIT REVISEDFORM 2013	/ /	
	3.	FHA PROCESSING	69/04/11	

05/04/71

BOSTON REDEVELOPMENT AUTHORITY

DISPOSITION PARCEL PROGRESS REPORT

PROJECT X-56 SOUTH END — FHA # -
PARCEL # 36A — PARCEL LOCATION - CORNER NEWTON AND WASHINGTON STS
DISTRICT 9 — DEVELOPMENT NAME - NO DEVELOPER DESIGNATED

********** BRA WORK STAGES **********			ACT.DATE COMPLETE	EST.DATE COMPLETE
TENTATIVE DEVELOPER SELECTION	1.	ADVERTISE OR NEGOTIATE	/ /	
	2.	PROPOSALS SUBMITTED	/ /	
	3.	BRD REVIEW, TEN. DESIGNATION	/ /	/ /
CLOSE APPRAISALS	1.	BOARD APPROVAL OF CONTRACTS	/ /	
	2.	ASSIGN TWO APPRAISERS	/ /	
	3.	TWO APPRAISALS COMPLETE	/ /	
	4.	BRD APPRVL, DISPOSITION PRICE	/ /	/ /
SCHEMATICS DESIGN	1.	PREPARE SCHEMATICS	/ /	
	2.	APPROVE SCHEMATICS - OFTEN BRD	/ /	/ /
DESIGN DEVELOPMNT	1.	PREPARE DRAWINGS AND FORMS	/ /	
	2.	INITIAL APPROVAL	/ /	/ /
PRELIMINARY WORK DRWGS	1.	PREPARE PRELIM DRWGS - SPECS	/ /	
	2.	PRELIMINARY APPROVAL	/ /	/ /
APPLICATION FOR 121A CORP.	1.	SUBMIT APPLICATION	/ /	
	2.	BRA BRD HEARING AND APPROVAL	/ /	/ /
	3.	CITY APPROVAL - INCORPORATION	/ /	
HUD APPROVE DISP PRICE	1.	SEND PROPOSED PRICE TO HUD	/ /	
	2.	RECEIVE HUD APPROVAL OF PRICE	/ /	/ /
LAND DISPOSITN AGREEMENT	1.	SEND LDA TO HUD	/ /	
	2.	RECEIVE HUD CONCURRENCE	/ /	/ /
	3.	PUBLIC DISCLOSURE	/ /	
FINAL APPROVAL	1.	PREPARE FINAL DRWGS AND SPECS	/ /	
	2.	BRA BRD - FORMAL DESIGNATION	/ /	/ /
AND DEPOT PARCEL -	1.	BHA PROCESSING	/ /	
	2.	CONFIRMATORY TAKING	/ /	
	3.	EQUAL OPPORTUNITY PROCESSING	/ /	
- - - EXECUTE LAND DISPOSITION AGREEMENT - - -			/ /	/ /
CONSTRUCTION AND OCCUPANCY	1.	BEGIN CONSTRUCTION	/ /	/ /
	2.	FHA REQUIRED COMPLETE DATE	/ /	
	3.	BRA CERTIFIED COMPLETE DATE	/ /	
	4.	INITIAL OCCUPANCY	/ /	/ /
* * * * T-I-T-L-E T-R-A-N-S-F-E-R * * * *			/ /	/ /

********** SITE PREPARATION WORK STAGES **********			ACT.DATE COMPLETE	EST.DATE COMPLETE
MAST. DISP. AND PARCEL DELIVERY	1.	PREP/APPROVE ENG. CONTRCT	/ /	
	2.	PREPARE MASTER DISP. PLAN	/ /	
	3.	PREP PARCEL DELIVERY PLAN	/ /	
CREATE OR SUBDISTRCT IF NEEDED	1.	ASK PETITION/BRD APPROVAL	/ /	
	2.	PETITION HEARING	/ /	
	3.	APPROVAL OF PETITION	/ /	
ZONING VARIANCES AND CHANGES (WHERE NEEDED)	1.	ASK ZONING CHANGE	/ /	
	2.	RECEIVE ZONING CHANGE	/ /	/ /
	3.	ASK ZONING VARIANCE	/ /	
	4.	RECEIVE ZONING VARIANCE	/ /	/ /
	5.	ASK CODE CHANGE	/ /	
	6.	RECEIVE CODE CHANGE	/ /	/ /
PUBLIC IMPROVMENT COMMISION	1.	PREPARE PIC PLANS	/ /	
	2.	PIC HEARINGS	/ /	/ /
	3.	SIGNED + RECORDED - MAYOR	/ /	
GET BUILDING PERMIT	1.	REQUEST BUILDING PERMIT	/ /	
	2.	REVIEW BY BUILDING DEPT.	/ /	
	3.	BLDG. PERMIT ISSUED	/ /	/ /

********** FINANCIAL STAGES **********	ACT.DATE COMPLETE	EST.DATE COMPLETE
SECURE CONSTRUCTION LOAN	/ /	/ /
SECURE LONG TERM LOAN	/ /	/ /
GET DEVELPR CONDITN PRECEDENT MATERIALS	/ /	

COMMENTS -

DISPOSITION PARCEL STATUS REPORT

PROJECT = R-56 SOUTH END

PARCEL =	DEVELOPMENT NAME	TOTAL = OF ACQ. PARCELS	= ACQ. PARCELS NOT YET ACQUIRD	= ACQ. PARCELS W/OCCPD BLDGS	RES. UNITS STILL OCCPD	NON-RES UNITS STILL OCCPD	= ACQ. PARCELS W/BLDG TO DEMO	LDA EXEC-UCTED	ACT. DATE-TITLE TRANS.	EST. DATE-CONSTR. BEGIN	ACT. DATE-CONSTR. BEGIN
55	SCOTT MCDONALD	1	1	0	0	0		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS TEMPORARY PARKING LEASE AWARDED TO B.U.M.C						TEMPORARY PARKING LEASE AWARDED TO B.U.M.C				
56	OFF STREET PARKING	3	3	0	0	1		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS										
57	PARKING	7	7	0	4	1		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS										
58	NO DEVELOPER DESIGNATED	11	11	0	2	0		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS										
59	PARKING	1	1	0	4	0		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS										
PB1	MACKEY SCHOOL PLAYGND EXP	7	7	0	0	6		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS SITE TO BE SPLIT BETWEEN PLAYGROUND AND BOSTON CEN TER FOR THE ARTS.						SITE TO BE SPLIT BETWEEN PLAYGROUND AND BOSTON CEN TER FOR THE ARTS				
PB2	MACKEY SCHOOL PLAYGND EXP	5	5	0	2	0		00/00/00	00/00/00	00/00/00	00/00/00
	COMMENTS										

PROJECT PROFILE SUMMARY REPORT

PROJECT NO. R-56 SOUTH END

ACQUISITION SUMMARY

ACQUISITION PARCELS -	ALREADY ACQUIRED	0
	NOT YET ACQUIRED	0
	TOTAL IN THIS PROJECT	0
ACQUIRED PARCELS -	ALREADY ACQUIRED	0
ACQUIRED PARCELS WITH BUILDINGS TO BE DEMOLISHED		0
NUMBER OF RESIDENTIAL UNITS STILL OCCUPIED		0
NUMBER OF NON-RESIDENTIAL UNITS STILL OCCUPIED		0

AMOUNT PAID FOR ACQ. PARCELS ACQUIRED TO DATE		$0.00
AMOUNT OWED FOR ACQ. PARCELS ACQUIRED TO DATE		$0.00
EST. AMT. TO BE PAID FOR UNACQUIRED PARCELS		$0.00
NO OF PARCELS WITH NJ ESTIMATE		0
EST. AMT. ABOVE INIT. OFFERING PRICES		$0.00
ESTIMATED TOTAL ACQ. COST FOR THIS PROJECT		$0.00
BUSINESS - TO DATE	SBA $0.00 HUD	$0.00
RELOCATION EST. REMAINING		$0.00
COSTS TOTAL		$0.00
DEMOLITION COSTS -	TO DATE	$0.00
	EST. REMAINING	$0.00
	TOTAL	$0.00
ACQUISITION PROCESS TOTAL -	TO DATE EST. REMAINING TOTAL	ACQUISITION + DEMO COSTS ONLY $0.00 $0.00 $0.00

DISPOSITION SUMMARY

RESIDENTIAL -	PARCELS-CONSTRUCTION STARTED	0
	PARCELS-CONSTRUCTION NOT STARTED	1
	TOTAL PARCELS IN THIS PROJECT	1
	LOW INCOME D.U.S CONST STARTED	0
	MODERATE INCOME D.U.S	0
	MID/HI INCOME D.U.S	0
	TOTAL D.U.S	0
NON-RESIDENTIAL -	PARCELS-CONSTRUCTION STARTED	0
	PARCELS-CONSTRUCTION NOT STARTED	0
	TOTAL PARCELS IN THIS PROJECT	0
	NET FLR AREAS - COMMERCIAL (WHERE CONSTRUCTION HAS BEGUN)	0
	INDUSTRIAL	0
	INSTITUTIONAL	0
	OTHER NON-RES	0
	TOTAL	0

TOTAL BRA INCOME FROM LAND DISPOSITION $40,000.00

NEW DEVELOPMENT COST -	TO DATE	$0.00
	EST. REMAINING	$8,790,400.00
	TOTAL	$8,790,400.00
CONSTRUCTION COSTS -	TO DATE	$0.00
	EST. REMAINING	$7,475,291.00
	TOTAL	$7,475,291.00

ESTIMATED CONSTRUCTION START SCHEDULED

	JAN-JUNE 1971	JULY-DEC 1971	JAN-JUNE 1972	JULY-DEC 1972
RES. D.U.S	0	0	0	0
COMMERCIAL SQ FT	0	0	0	0
INDUSTRIAL SQ FT	0	0	0	0
INSTITUTIONAL SQ FT	0	0	0	0
OTHER NON-RES SQ FT	0	0	0	0

Figures 1, 2A, 2B

Figure 1

BOSTON REDEVELOPMEMT AUTHORITY

DIRECTOR

P McCANN	EXEC. ASST
R UNDERWOOD (6/25)	ADMIN URBAN AFFAIRS
E FRIEDMAN (VACANT)	SR. ADMIN ASST. (PUB INFO.)
E FITZPATRICK	PERSONNEL OFFICER
J McMORROW	EDUC. PROG. OFF.
R DIOZZI	SPECIAL COUNSEL

COMPTROLLER
T KERRIGAN
(DISBURSEMENTS ONLY)

J CONLEY
GENERAL COUNSEL AND STAFF

EXECUTIVE DIRECTOR
K SIMONIAN

ASST. FOR OPERATIONS & PUBLIC SERVICES
VACANT

ASST. FOR STAFF SERVICES
W JOHNSON

ADMINISTRATOR FOR PLANNING, URBAN DESIGN & ADVANCE PROJECTS
C HILGENHURST

DIRECTOR URBAN DESIGN DEPT.
R LOVE[illegible]

DIRECTOR PLANNING DEPT.
P ZEIGLER

CHIEF, TRAFFIC PLANNING
R MURPHY

ZONING OFFICER
R. PLESHAW (6/25 VACANT)

ADMINISTRATOR FOR OPERATIONS & PUBLIC SERVICE
VACANT (EXEC DIR)

DIRECTOR ENG'G. DEPT.
W ORPIN

DIRECTOR REAL ESTATE DEPT
R McGOVERN

DIRECTOR PROPERTY MANAGEMENT DEPT.
A. GRIFFIN

ADMINISTRATOR FOR STAFF SERVICES
J. DROUGHT

FISCAL SYSTEMS OFFICER
VACANT

* COMPTROLLER (PROCEDURES)
T KERRIGAN

BUDGET OFFICER
G. NILES

CONTRACTS
R ARNOLD

OFFICE MANAGER, PURCH. & SUPPLY
A. DINNEEN

INTERGOVERNMENTAL RELATIONS OFFICER
C. KOUGEAS

RESEARCH DIRECTOR
A GANZ

TECHNICAL SERVICES DIRECTOR
H. BENNETT

CONTRACT COMPLIANCE OFFICER
R BROWN

ADMINISTRATOR FOR DEVELOPMENT AND LEGAL SUPPORT SERVICES
VACANT

DIRECTOR, RESIDENTIAL DEVELOPMENT
[illegible]

DIRECTOR, NON-RESIDENTIAL DEVELOPMENT
W. HAYNSWORTH (5/12 - VACANT)

CHIEF REHAB. SECTION
R. McGILVARY

CHIEF, NEW CONSTRUCTION SECTION
VACANT

CHIEF INDUSTRIAL & INSTITUTIONAL SECTION
M. WENNIGER

CHIEF BUSINESS RELOCATION SECTION
J. O'NEILL

ADMINISTRATOR FOR COMMUNITY ORGANIZATION & SOCIAL SERVICES
VACANT

DIRECTOR, FAMILY RELOCATION DEPT.
J SMITH

DIRECTOR, SOCIAL SERVICE PROGRAMS
VACANT (FAM. REL DIR.)

CHIEF, WORK STUDY PROGRAMS
VACANT (PERS DIV)

DIRECTOR PROJECT OPERATIONS
J DROUGHT

PROJECTS

CHARLESTOWN
F. PRATT (ACTING)

SOUTH END
R. WALSH

FENWAY & N. HARVARD
J BERLANDI

WATERFRONT
J MARCELLINO (5/15 VACANT)

SO. COVE
W BARBATO

CAMPUS HIGH
[illegible]

WASHINGTON PARK
M. CURRIE

MODEL CITIES
R DURLING

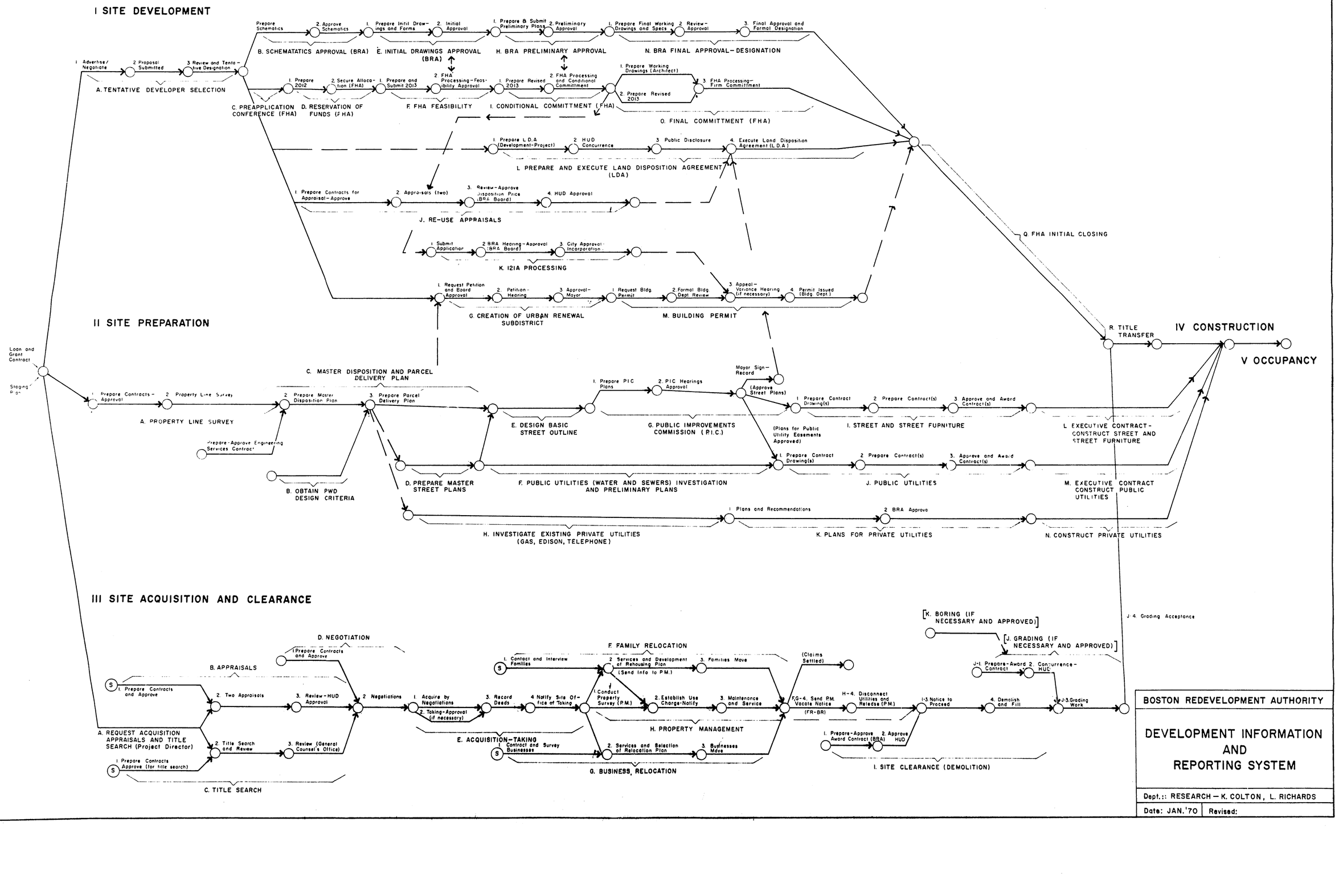
——— DIRECT RESPONSIBILITY

– – – – – COORDINATING RESPONSIBILITY

* RESPONSIBILITY ONLY TO DIRECTOR AND AUTHORITY BOARD FOR DISBURSEMENT.

(DRAFT APRIL 5, 1971)

THE REDEVELOPMENT PROCESS - RESIDENTIAL



BOSTON REDEVELOPMENT AUTHORITY

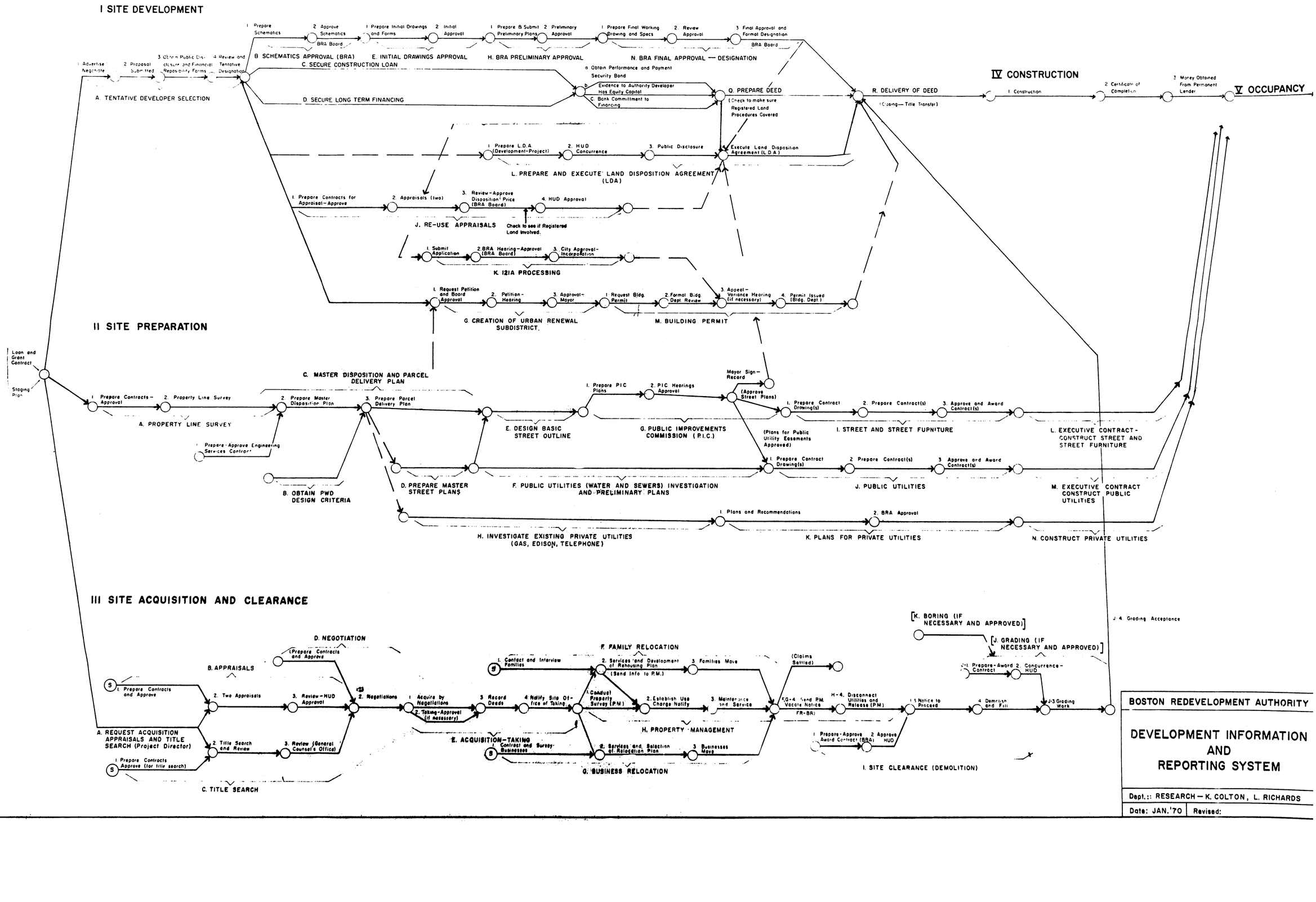
DEVELOPMENT INFORMATION AND REPORTING SYSTEM

Dept.:: RESEARCH — K. COLTON, L. RICHARDS

Date: JAN. '70 | Revised:

Figure2B

THE REDEVELOPMENT PROCESS — NON-RESIDENTIAL



BOSTON REDEVELOPMENT AUTHORITY

DEVELOPMENT INFORMATION AND REPORTING SYSTEM

Dept.: RESEARCH — K. COLTON, L. RICHARDS

Date: JAN. '70 | Revised:

SYSTEM FLOWCHART
MAINTENANCE CYCLE

PAGE A

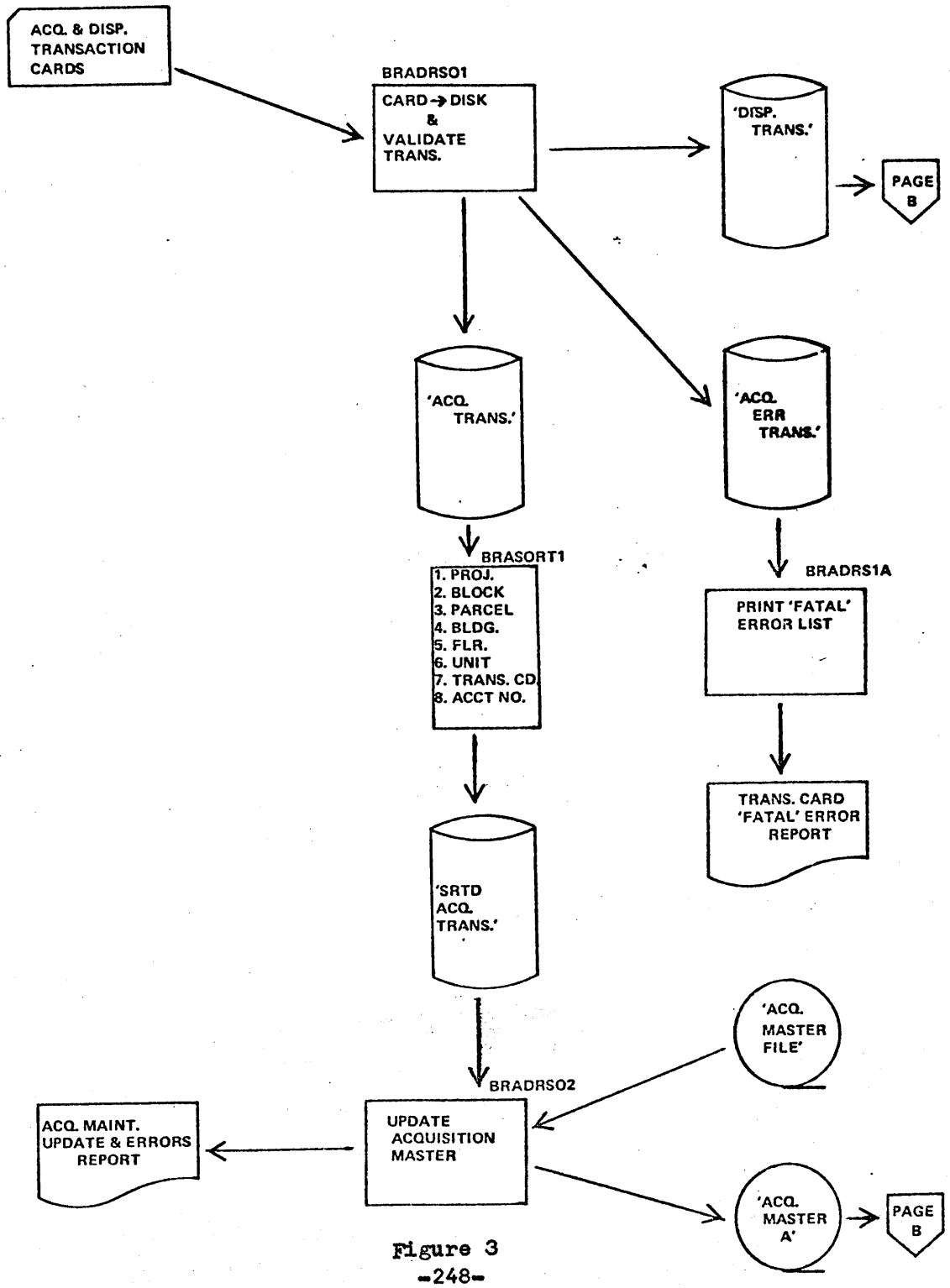
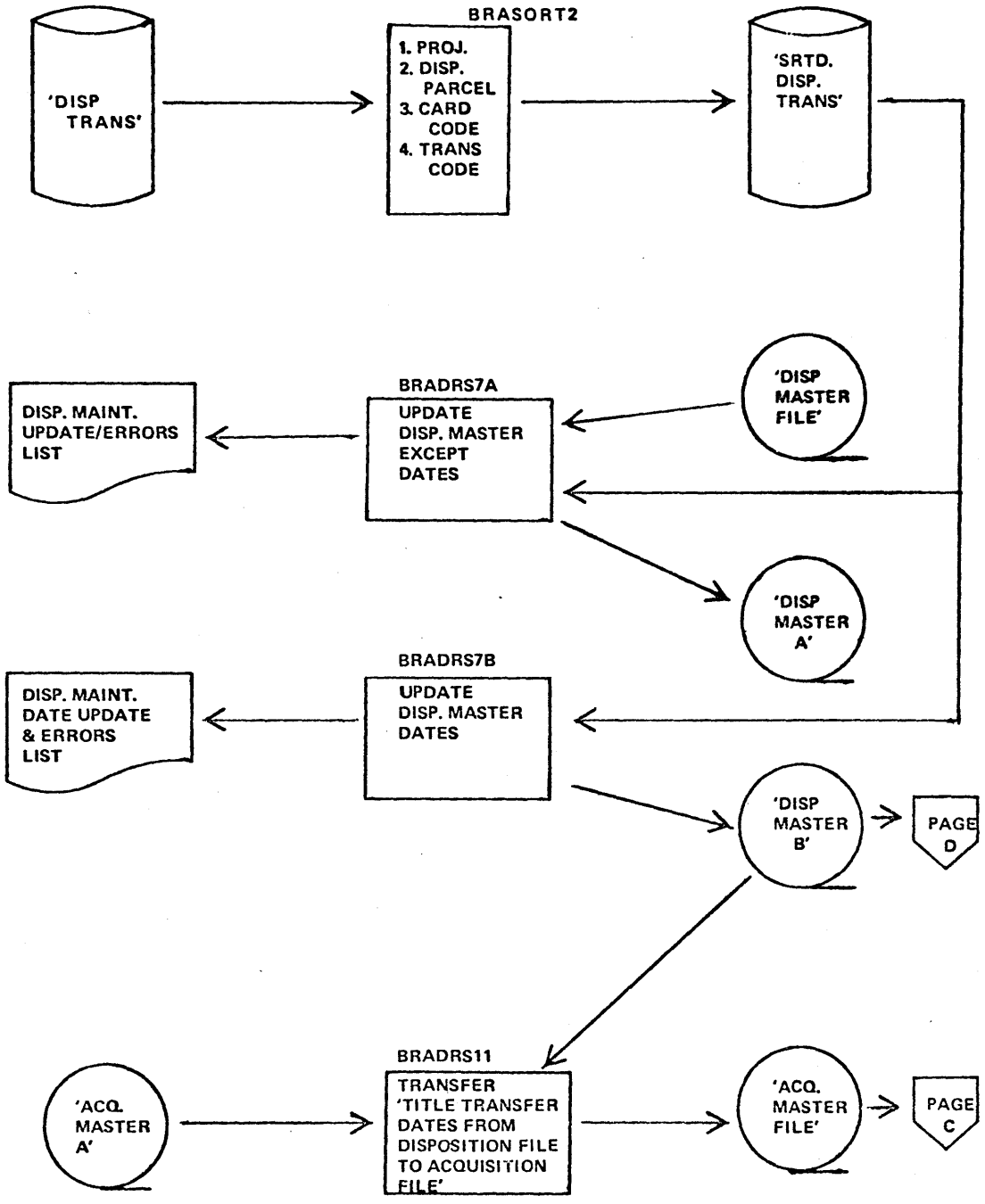


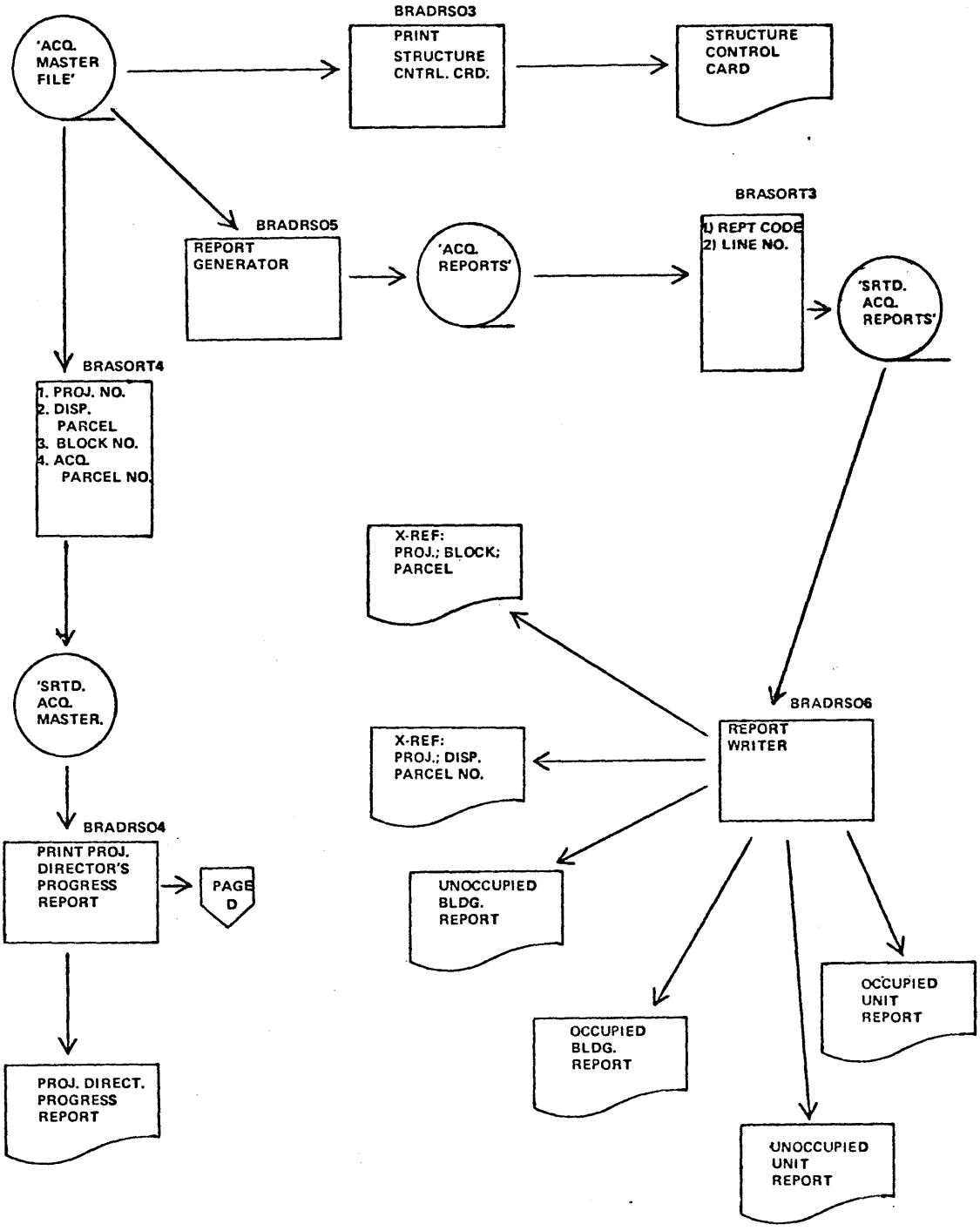
Figure 3

SYSTEM FLOWCHART
MAINTENANCE CYCLE
PAGE B



SYSTEM FLOWCHART
REPORTING CYCLE

PAGE C



SYSTEM FLOWCHART
REPORTING CYCLE

PAGE D