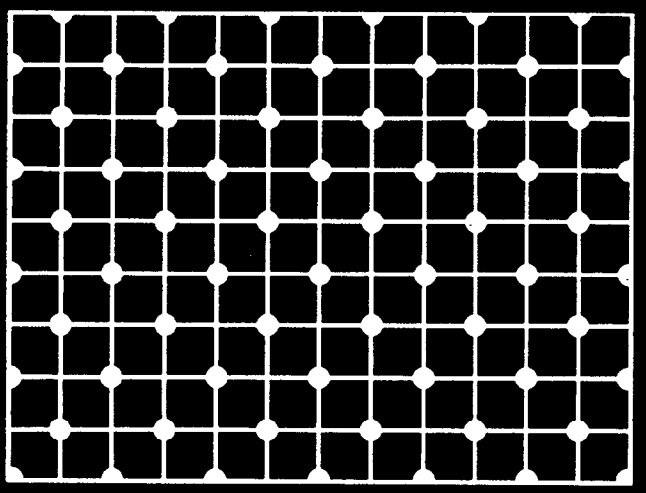

CITY PLAN COMMISSION • PROVIDENCE, RHODE ISLAND

IN CITY COUNCIL

APR 4 1968

FIRST READING
REFERRED TO COMMITTEE ON
ORDINANCES
Vincent Crespi
CLERK

THE COMMITTEE ON
ORDINANCES
Recommends
To Be Received
Vincent Crespi
OCT 23 1968
Clerk

REPORT TO

THE CITY OF PROVIDENCE

ON THE FEASIBILITY OF AN AUTOMATED

INFORMATION SYSTEM FOR PLANNING

Date: September 29, 1967

Submitted by:

Policy Management Systems, Incorporated
1026 17th Street, N. W.
Washington, D. C. 20036

60 East 56th Street
New York, New York 10022

IN CITY COUNCIL
NOV 7 - 1968
READ:
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.
Vincent Crespi
CLERK

The preparation of this report was financed in part through an urban planning grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended, in cooperation with the City of Providence, City Plan Commission, City Hall, Providence, Rhode Island 02903.

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Table of Contents (continued)

PART I OF REPORT TO PROVIDENCE

The Definition, Systematization and Processing of Planning Data

INTRODUCTION TO PART I

The basic principle linking Part I and Part II is the integration of the fiscal and planning process directly under the Mayor. Whereas the emphasis in Part II is on the fiscal and administrative aspects of integration, the emphasis in Part I is on the selection, coordination and manipulation of the physical, social and fiscal data required by the planning process.

Part I is based on a certain concept of what constitutes a data bank.[1] According to this concept, a data bank potentially consists of all computerized operational data and thus grows in scope as operational computer applications are added.[2] In order that this data bank potential may be realized, the following must exist:

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1 This concept is somewhat different than that employed by the cities involved in the Federally financed Metropolitan Data Center Project. The approach of those cities (and most other cities that have attempted a data bank) has been to create special non-operational files just for planners. These files have been closed-end files made up of various data items (much of it non-computerized) selected by planners and collected especially for them. This approach has had two major drawbacks -- lack of flexibility and breakdown in the data collection system.

2 This does not preclude arrangements between planners and operating departments to make data items of special planning utility part of the operational data system, nor does it preclude special data collection projects by planners.

(1) A computerized system for geographically cross-indexing operational data located in various data processing files;

(2) a computer program for selecting data items from a variety of operational files and arranging them by common geographic designations in special temporary files;[3]

(3) a computer program for summarizing and presenting (in graphic form, if desired) the data contained in the specially created files;

Based upon this concept of a data bank, Part I emphasizes the interrelation of operational data and the planning process as follows:

(1) The need for planners to influence the operational data system and to analyze in some detail exactly what they want from the data system (Sections 1 and 2);

(2) the need to systematize operational data so that it can be interrelated for planning purposes (Section 3);

(3) the need to reorganize, upgrade and properly finance the data processing division as a prelude to an orderly expansion of operational applications and the consequent expansion of computerized data available for planning purposes (Section 4).

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3 This includes the capability of searching historical files which can be created by periodically freezing operational files and storing the data.

The recommendations contained in sections of Part I are responsive to the foregoing needs and are grouped in four categories -- organization, financing, systems planning and programming, and plan for data processing development. The principal recommendations contained in the four categories can be summarized as follows:

Organization -- data processing should be removed from the Finance Department and constituted a separate department.

Financing -- data processing expenditures should be roughly doubled over a five-year period, and the department should be placed on a revolving fund budget.

Systems Planning and Programming -- Within data processing there should be a division devoted entirely to systems design and programming, such division to have responsibility not only for the planned development of data processing but also the supervision of the City data system.

Plan for Data Processing Development -- data processing development in the City should proceed according to an outlined two-year plan culminating in the achievement of data bank capability (including a capability for a computerized mapping system).

PART I

1. Principal influences on the City data system.

The Providence data system has been subject to influence from at least seven major sources; the least influential of which have been the Mayor's office and the City planners. These seven sources of influence, listed roughly in order of their impact, are:

a) The need to record data on departmental activities or necessary to the performance of such activities.

This factor has understandably been the strongest single influence on the data system and accounts in large part for the narrow departmental orientation of the Providence data system (and those of other cities as well).

b) The need to meet the data requirements of non-city agencies.

(i) Federally influenced data systems

The influence of the F.B.I. on the Police Department and of H.U.D. on Redevelopment and the Housing Authority has been quite pervasive, with the whole system oriented toward Federal reporting requirements,[4] though including (particularly in the case of the Police Department) additional data items. The data system of

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4 It should be noted that Federal data requirements fall into two major categories: (1) Collection and publication of statistical data on a national basis (e.g., the F.B.I. reporting system); and (2) data required to evaluate requests for aid (e.g., renewal reporting to H.U.D.).

Progress for Providence will increasingly come under Federal control as the Office of Economic Opportunity develops data requirements. The Federally-oriented data systems are on the whole somewhat above the city average in terms of efficiency and completeness.

(ii) Data systems influenced by private and quasi-public agencies.[5]

The Fire Department data system has been influenced to some extent by the data requirements of fire insurance companies, which, through their rating systems, exercise considerable control over the internal operations of all fire departments. This influence is strongly reflected in the data compilation activities of the Fire Inspection Bureau.

The Recreation Department has built its data system around various head counting forms of the type advocated by the National Recreation Association. Thus, a great deal of data is collected on use of recreational facilities and programs, but the data system is weak in most other aspects.

The Traffic Engineering Department has built the accident analysis aspect of its activities around the data requirements

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5 It should be noted that the library system of Providence, which is privately endowed but supported by both City and State governments, probably belongs in this category. Libraries adhere largely to a common recording system.

of the National Safety Council. However, a large part of its data system pertains to other aspects of its work, e.g., traffic counts, traffic regulations, traffic equipment, parking, etc.

The data requirements of private and quasi-public agencies have strongly influenced the reporting activities of the City agencies in their sphere but have not been all-pervasive in terms of the total departmental data system.

(iii) The state-related agencies

The Health and Welfare Departments, now vestigial remnants, are influenced by state data requirements. The School Department has structured some of its records to meet state data requirements but has had considerable latitude in developing its data system. The expansion of Federal education programs will undoubtedly have an impact on the data system of the School Departments, particularly as this requires collection of more economic and social data on students and their families. However, this trend is in its beginning stage.

The impact of the State Government on data systems has not been great outside of the School Department. The trend has been for the State to absorb those activities where its interest was great, so that the State has had great organizational impact on the City government but somewhat less impact on data systems.

(iv) Departmental data systems least influenced by non-city agencies.

The Parks Department, Building Inspections, Minimum Housing, Public Works and City Plan have data systems little influenced by non-city agencies. City Plan, given its unique role, does not have many operational activities and tends to collect operational data rather than to generate it. Building Inspections and Minimum Housing have built their data systems around code enforcement. Public Works, which spans a wide variety of activities, has a very unsystematic, discrete recording system in which data requirements stem from a number of sources. The Parks Department (except for zoo records, which are influenced by general usage, and for the records of quasi-autonomous Forestry Section) has a very undeveloped data system which will probably expand as Federal beautification programs make their influence felt.

It is worthy of note that the efficiency and completeness of departmental data systems generally vary in accordance with the amount of outside influence. Thus operating departments, such as those listed above, usually have somewhat less efficient systems than other city agencies.

c) The need to conform to centralized money flow and personnel systems under the administrative control of the Finance Department.

Although departmental data systems are generally characterized by narrowness and fragmentation, there are two areas of managerial importance where centrally determined data requirements have been established -- personnel and money flow (e.g., payroll, purchasing, collections, etc.). In these two areas departments have had to conform to data requirements developed by the Finance Department, which has served as a clearing house for fiscal and personnel data. Obviously, the degree of control exercised by the Finance Department varies with the degree of legal and administrative control of the City over the particular departments so that certain quasi-independent agencies operate only partially within the confines of this system (e.g., the School Department and Redevelopment).

d) The need to gather planning and managerial data for departmental use.

Department heads in Providence have seldom sought to develop managerial and planning data in addition to every-day operational data (which, of course, often serves managerial purposes, if not planning purposes). There are, however, some notable examples of this being done.

The cost accounting data gathered in the Water Supply Board and Public Works are clearly managerial additions to the normal operational data. Likewise, the daily attendance reports of the Fire and Police Departments are managerial control devices to ascertain departmental readiness, rather than mere operational data.

A clear example of departmental planning data is the school census, which, of course, also serves state purposes. The Water Supply Board collects a variety of data primarily to plan for future needs. Generally, however, data is not sought solely for planning purposes.

Overall the City data system has not been greatly influenced by special planning and managerial requirements of department heads.

e) The need to adapt systems to computerization.

Adapting a data system to data processing does not necessarily involve substantial change or beneficial change, but since a switch is often accompanied by an analysis of the system involved, changes sometime occur.[6] In Providence, the impact of data processing

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6 Within recent years the Police Department had its principal data forms (e.g., arrest forms, offense and accident forms) coded for data processing and developed a quite compact and efficient system around these forms. However, this systematization was only partially a result of data processing demands. By way of contrast, the data processing system set up by Public Works seems to have cluttered up its record systems and rendered it less efficient.

on departmental data systems has been quite limited, due primarily to the fact that approximately 90 per cent of data processing services are rendered to the Finance Department.

f) The need to meet the requirements of central management.

The Mayors of Providence have apparently had little influence on the various data systems in the City. The content of the few departmental reports which come to the Mayor are determined by the departments themselves and have little managerial utility.[7] What has been lacking is a clear definition of data requirements by the Mayor's office.[8] Not surprisingly, the present data system does not serve central managerial purposes.

g) The need to meet the requirements of central planning.

Providence planners, like their counterparts in other cities, have been under pressure from the Federal Government to develop more urban data. This has resulted in recent attempts to make the City data system more responsive to planners. This trend has exhibited itself in two major ways -- development of a new mark-sense housing

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7 Whatever their utility, the preparation of the reports consumes considerable time in some departments. Moreover, certain data is compiled for the primary purpose of placing it in the report.

8 A principal medium for imposing such requirements is the management reporting system recommended in Part II of the report.

inspection form serving both planning and operational needs[9] and the undertaking of a data bank feasibility study.

(i) The new Inspection Form

The development of the housing Inspection Form is designed not only to make operational data more useful in planning purposes but to employ the inspection device as a means of gathering certain extra data primarily of interest to planners.[10] Since this form is designed for data processing, a steady flow of planning data to storage is insured. This is a far more practical procedure than that employed in various data bank systems in other cities where there have been attempts to construct a special data flow for planners apart from the operating system and to set up separate data processing files.

(ii) The Data Bank Study

One phase of the data bank project is to develop a system for making various operational data geographically compatible, so that data from a number of sources can be interrelated for purposes of renewal planning. This undertaking, which is being partially fulfilled by the development of a cross-index of street addresses, census block and tracts, and assessor's plats and lots, is a necessary preliminary since

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9 A related example was the influence exerted on the development of a new school census form by the planning and research section of Progress for Providence.

10 The principal weakness of this housing data from a planning point of view is that it will come in on a chronologically staggered basis over long periods of time and will not be geographically comprehensive.

so many data forms bear different geographic designations (see Section 3 of Part I). This step, however, does not involve any changes in the data system, only a means of making existing data more usable.

The more difficult aspect of the data bank study is determining what existing operational data is of planning utility. However, the term "planning data" has little intrinsic meaning, except perhaps as it pertains to certain generalized base data on population, housing characteristics, etc. In the following section, PMS sets out the methodology used in this study to designate "planning data."

2. Planning Data

As indicated in the previous section, City data has come into being because of operational need rather than because of planning requirements. In many instances the operational data may violate some essential requirement for planning data, such as uniformity, completeness or accuracy. In other instances the operational data may be confidential and not easily transferred to another agency. The purpose of the data bank study is essentially to ascertain which operational data serves planning needs and to try to include it in a uniform system adaptable to data processing. Also involved is the indication of data gaps.

For the purpose of listing and categorizing operational data of planning significance or pointing out data needs, it is necessary to have some pre-determined concept of what the planning process involves and what type of data it requires. Much of the categorization in this section of the report flows from a view of the planning process held by Policy Management Systems and is oriented toward a social viewpoint which may differ in some regards from what has been traditionally considered to be city planning. A description of the consultant's view of the planning process follows:

Steps	Data
1. A determination of the basic characteristics of the City.	Comprehensive or base data
2. A determination of public needs.	Functional data
3. A determination of the extent these needs are being fulfilled, including expenditure to meet those needs.	Functional data
4. A determination of programs to satisfy current needs.	Functional data
5. An evaluation of program effectiveness (now being stressed under Model Cities).	Functional data

a) Comprehensive or Base Data

The principal characteristics of comprehensive planning data are:

(1) It includes the entire planning area whether this be the City or a section thereof;

(2) it is mutually consistent by location coding, population classification, etc.;

(3) it is useful for various areas of functional planning;

(4) it is not very much influenced by departmental actions, at least over the short run.

The principal categories of base data are population, economic structure, city and community facilities, land and physical structures. As applied to Providence, the base data picture is as follows:

Principal Sources	Comment
Population - 1965 Federal Census (age, sex, race, household by type, size, etc.)	This will suffice for the present but population influx is too great to rely on a ten-year census. Development of a municipal census (e.g., an expanded school census) would be very helpful.
Economic Structure - Providence Business by S.I.C. Categories (R.I. Development Council)	Data in the economic area is very weak and not subject to correlation.
Employment by business categories (not S.I.C.) - (R. I. Department of Employment Security)	A major weakness is lack of data on institutional and governmental employment, both very significant in Providence.
Income data - 1960 Census	Income data is out of date.
City and Community Facilities - Through Tax Assessor and City Plan there is data on location of some city facilities, State Social Service Index and Progress for Providence have index of community facilities in the social area. Redevelopment	The City's records are such that it would be difficult for them to pull together data on many of these facilities (e.g., the City road system). The work on enumeration of community facilities has progressed well but is not well-developed in the non-social area.

	and Public Works have considerable private utility data.
Land - Land Use Survey for City Plan	This survey is out of date and it was never incorporated into an on-going system.
Physical Structures - CRP Study	Providence has done renewal surveys in some areas but its last comprehensive analysis of its structures was made some five or six years ago.

Clearly, Providence has something of a problem with respect to base data, stemming in part from failure to develop updating systems.[11] Such updating, though never eliminating the need for periodic comprehensive surveys, helps to preserve the usefulness of base data and greatly increases its planning utility. Furthermore, the process of measuring change in base data is often a means of program evaluation (e.g., population decline, income increase, improved condition of housing stock all have evaluative significance).

b) Functional Data

Functional planning necessarily requires the selection and adaptation of certain base data (e.g., population is almost invariably

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[11] The advantage of the proposed PAS school census is its updating feature. Land use data and housing data could be updated by better liaison with Building Inspections and Minimum Housing respectively.

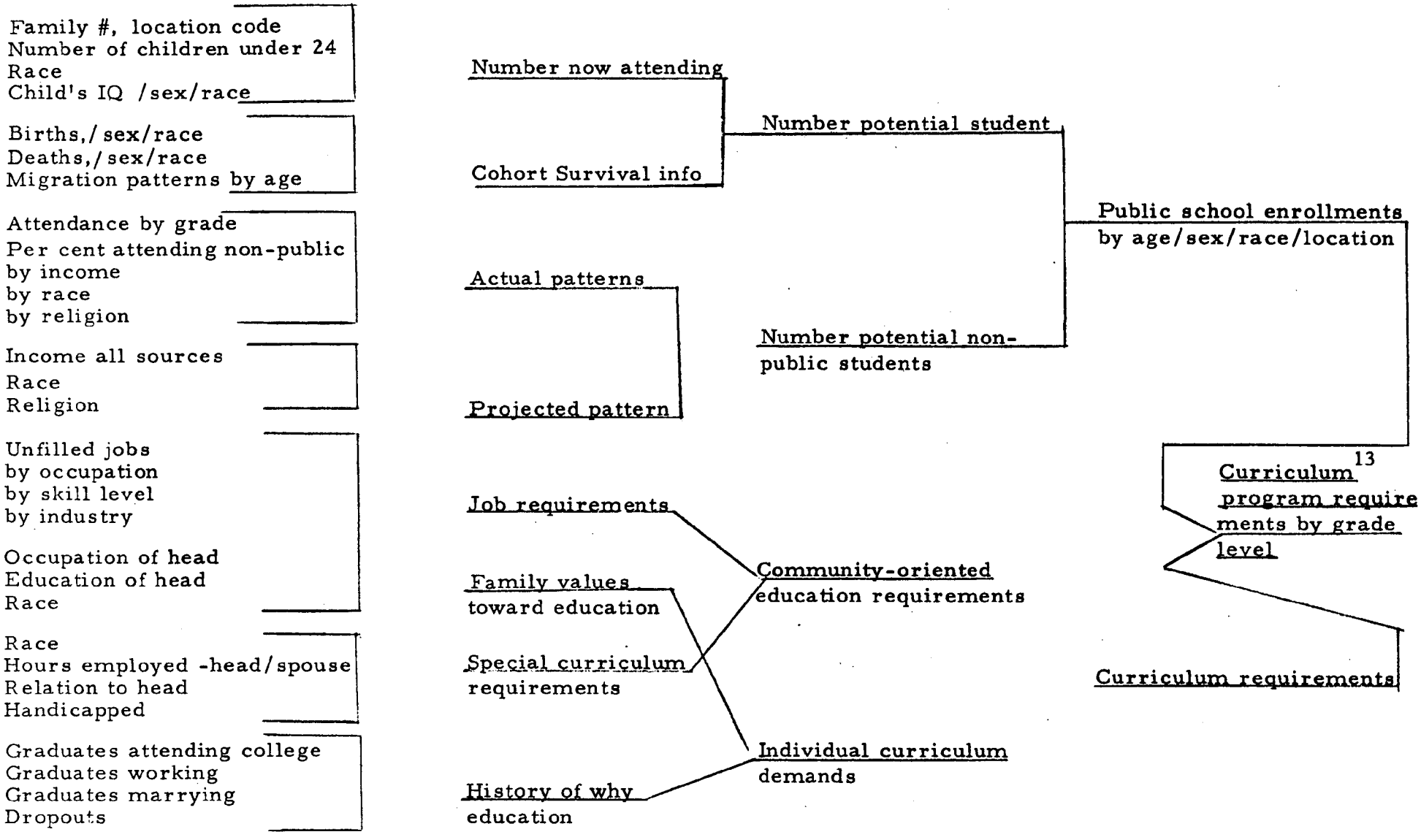
a factor in functional planning). It also requires use of more specific data, usually drawn from operational sources. This data, since it comes from a variety of operational sources, often lacks the mutual consistency of base data and is very much subject to departmental influences. Since functional planning pertains to a specific function of the City, it can utilize data that is less than city-wide in scope as long as it is fairly comprehensive for the functional area involved.

For purposes of categorizing functional planning data, it has been assumed that the major needs of Providence citizens fall into seven major categories: Housing, education, transportation, health, leisure (recreation, beautification, culture), income generation and support, public safety. For illustrative purposes, two significant areas of functional planning -- education and housing -- are hereinafter outlined in some detail.

(i) Education

The following four-step process for educational planning is not designed to be a definitive outline of methodology but to be an indication of the need to go through this general process before having a coherent idea as to what constitutes functional planning data.

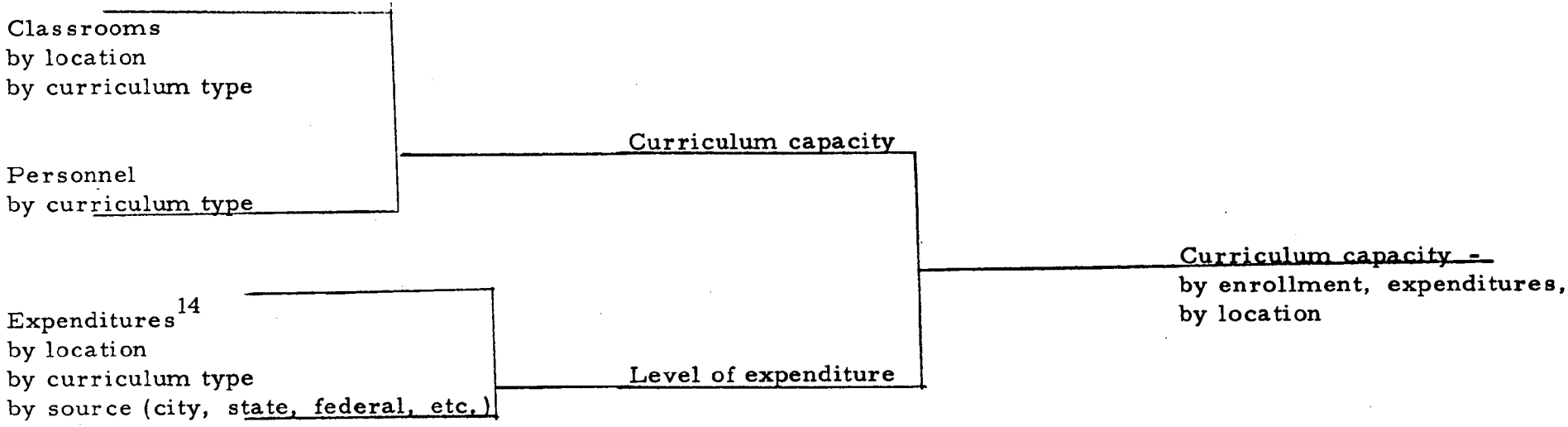
STEP 1 - Determination of data related to educational demand:[12]



[12] Determination that there is an existing public need which should be met may arise from legal requirements (e. g., compulsory education laws) or decisions by policy-makers based upon articulated public demand cr their own analysis.

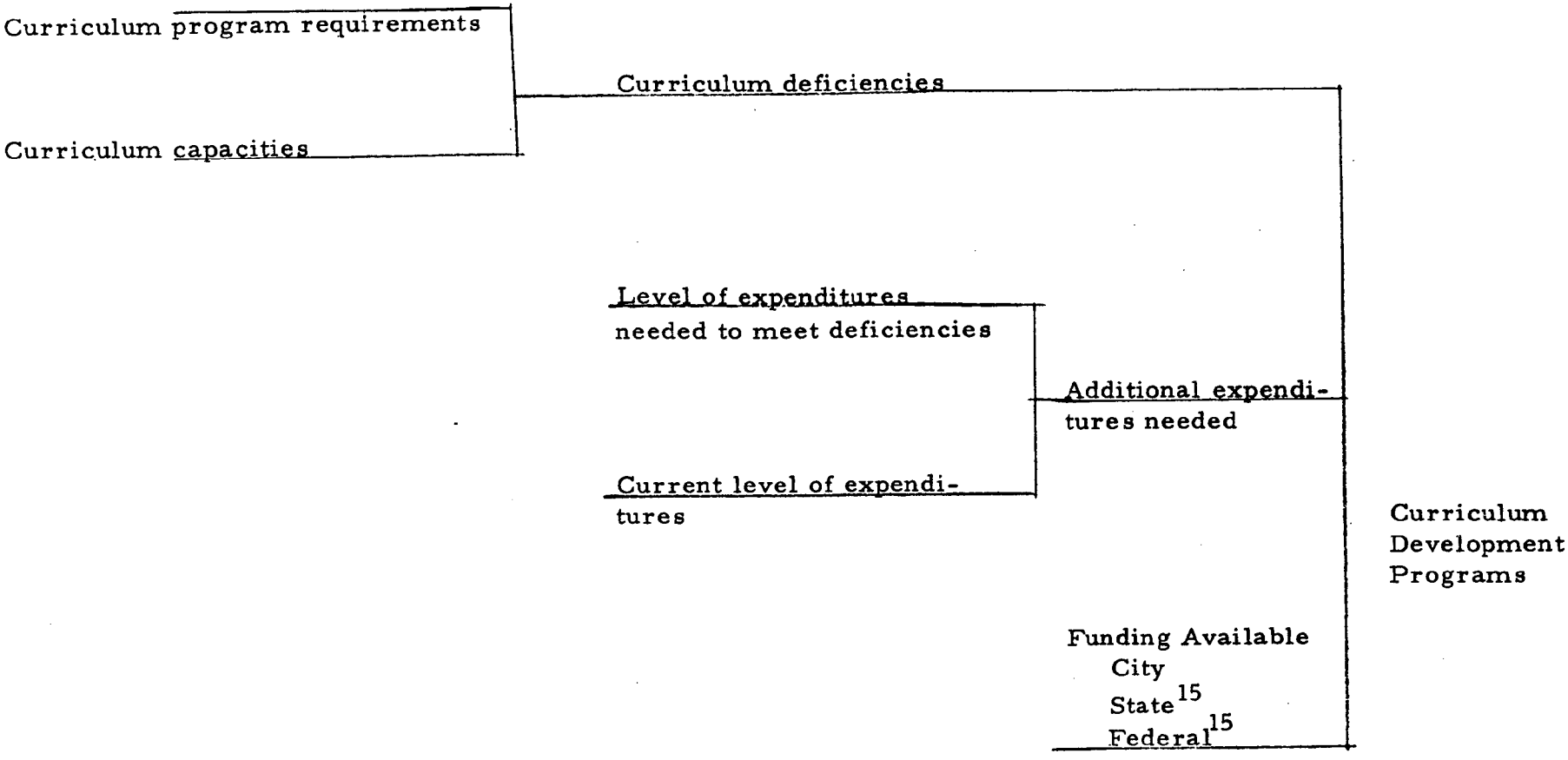
[13] Used here not in narrow sense of precise course content but broader sense of general educational programs.

STEP 2 - Data related to educational supply:



14 Aggregation of data on school expenditures is complicated by the fact that data is contained in at least four accounting funds but more difficult is the determination of expenditures by curriculum category (e.g., elementary, secondary, etc.).

STEP 3 - Educational Needs Analysis



15 The Providence Controller recorded the following receipts from the state and Federal government in 1966 (receipts being no indicator of availability): (see next page)

Program	Receipts
Federal	
Distributive Education	$ 1,600.00
Trade School - Evening Extension	443.75
Reimbursement for: Smith Hughes	11,642.91
Apprenticeship Training	12,652.50
Vocation and Industrial Trade	5,181.89
Vocational work-study program	18,163.85
Community Schools	742,310.05
	186,064.47
	40,000.00
N.D.E.A., Title III	14,372.70
Title V	10,963.33
E.S.E.A., Title I	
G. I. R. D.	123,301.00
Special Education	69,107.00
School Clinics	73,782.00
Focus on South Providence	190,181.00
Speech and Hearing	50,361.00
A. R. M.	226,120.00
Reading	470,109.81
Reading II	22,682.76
Speech and Hearing II	

(Continued)

Program	Receipts
Educationally and Emotionally Disadvantaged Children	$ 20,000.00
A. R. M. II	20,000.00
H. E. P.	20,000.00
Industrial Arts Education	97,472.00
Title II	77,651.00
Title III	
Ed. Lab. Theatre	50,000.00
	43,500.00
Planning for Adult Education	17,198.00
C. O. P. E.	53,300.00
Vocation Evening Classes	725.00
Planning Grant Application	1,384.25
Giant Step	222,814.07
Pre-kindergarten program	25,000.00
Vocational Home Economics (Border)	1,594.15
State	
Aid to Education	4,030,618.00
Payment of School Debt	175,291.00

STEP 4 - Data related to measuring educational achievements:[16]

IQ and achievement levels
by grade

Last grade completed
Reason for termination

Dropouts, date/age/IQ

Highschool graduates

Employment and Income
- Year 1 after graduation
- Year 5 after graduation

College
- Entered
- Completed _____ years
- Graduated junior college
- Graduated college
- Advanced degrees

Residence
- Year 1 after graduation
- Year 5 after graduation

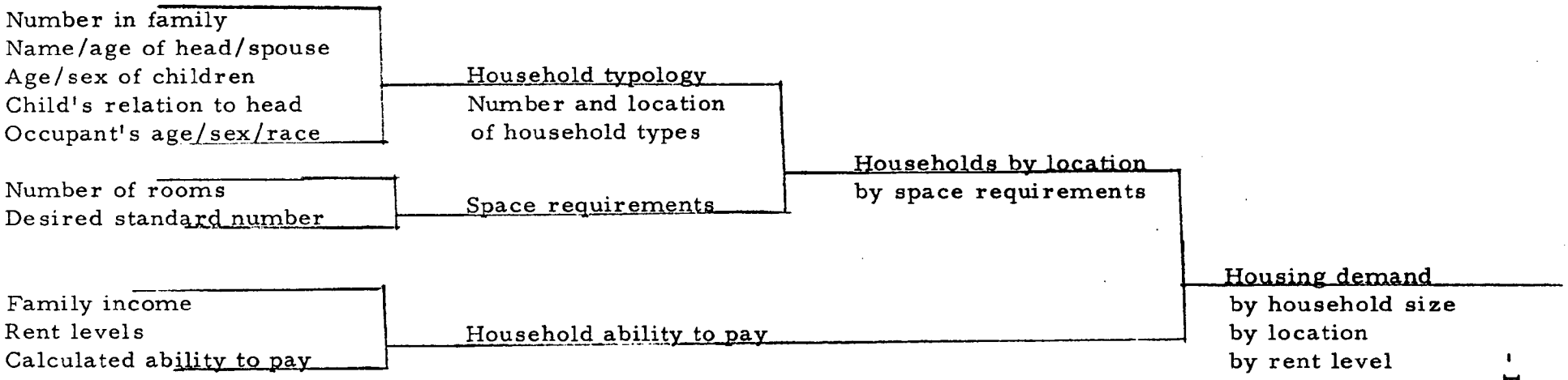
16 It is this type of data which would constitute a large part of the planning information system recommended in Part I. Obviously, the present data items on post-graduates are not adequate. It well might be that more extensive follow-up data will be required.

It is apparent that if Providence employed the preceding methodology or its equivalent that there would be some problems with demand data (e.g., employment, family structure, up-to-date income data, occupation, migration, etc.) but virtually all of these defects would be cured by adoption of the proposed PAS school census. The real problems are the failure to conceptualize appropriate planning activities and weaknesses in the use of fiscal, cost and evaluative data. The greatest single weakness in planning is not the lack of various pieces of social or physical data (although this is not an insignificant factor), but the lack of usable fiscal and funding data by which to link program planning to monetary reality.

(ii) Housing

A possible planning methodology for housing follows:

STEP 1 - Data related to defining housing need:



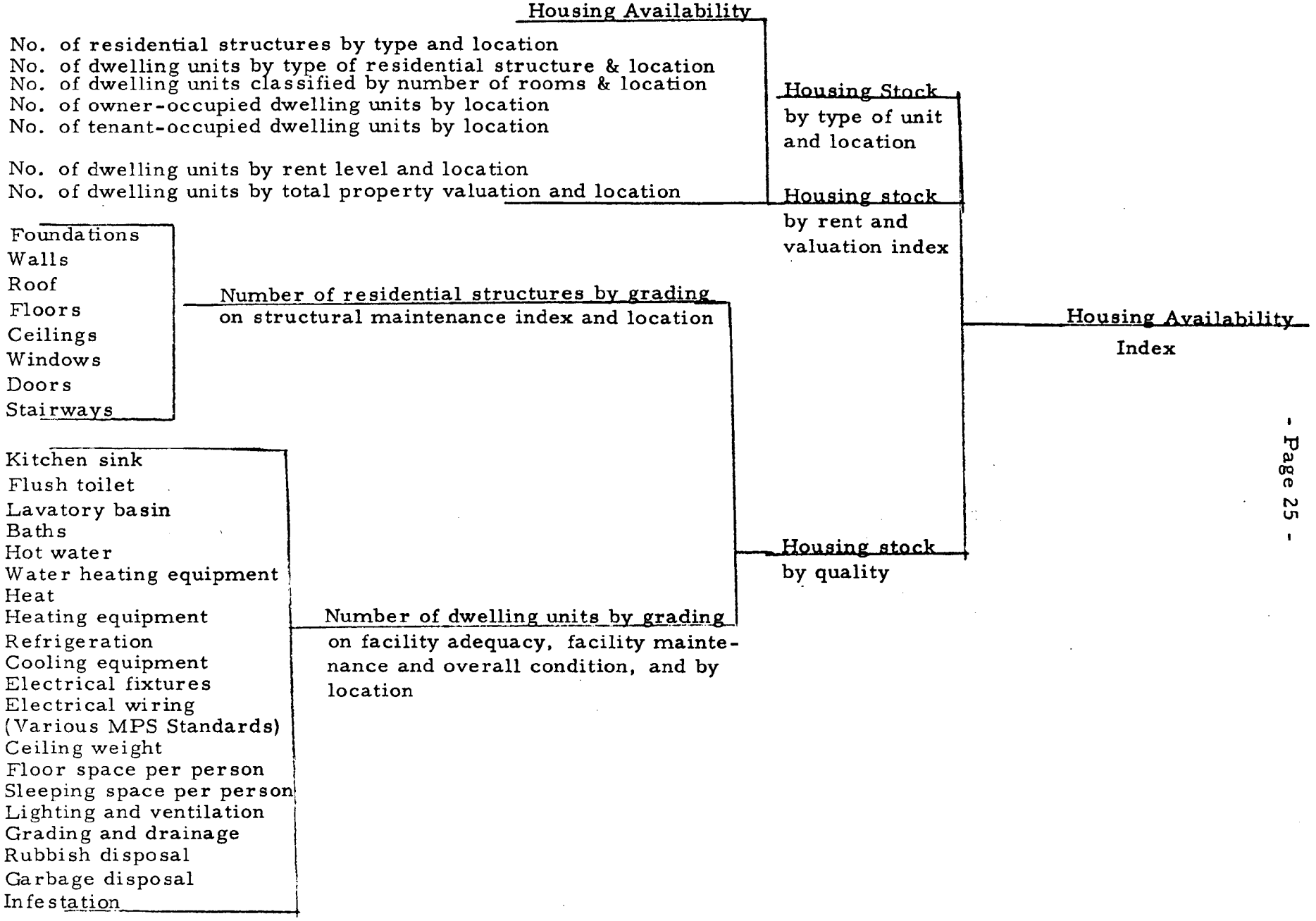
SPECIAL HOUSING ANALYSIS

Relocation
- Numbers of families relocated
- Numbers of families to be relocated
- Vacancy levels

Internal Migration
- Areas of previous/present residence
- Years moved

External Migration
- Numbers by area of former residence, age, race, income

STEP 2 - Data related to defining housing supply:



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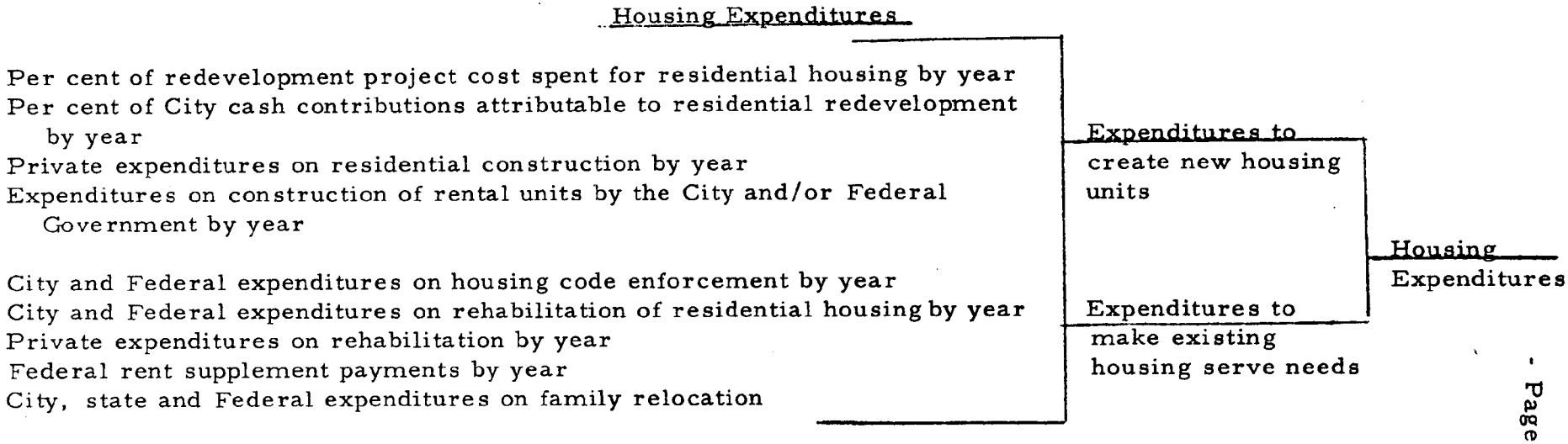
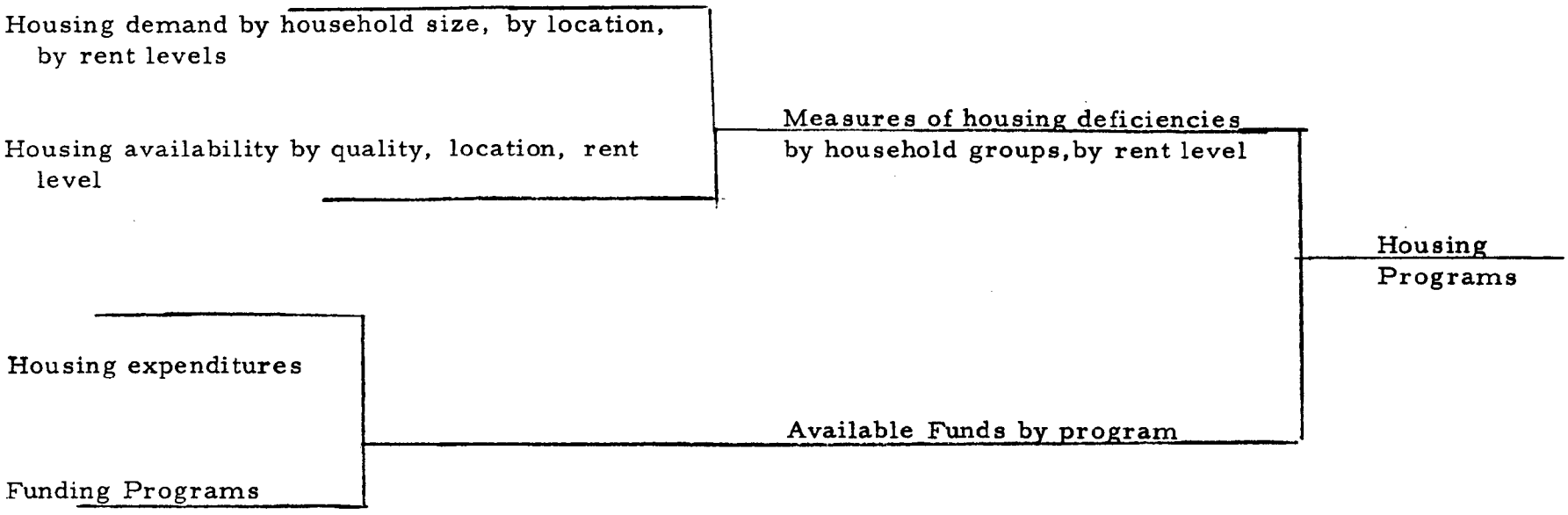
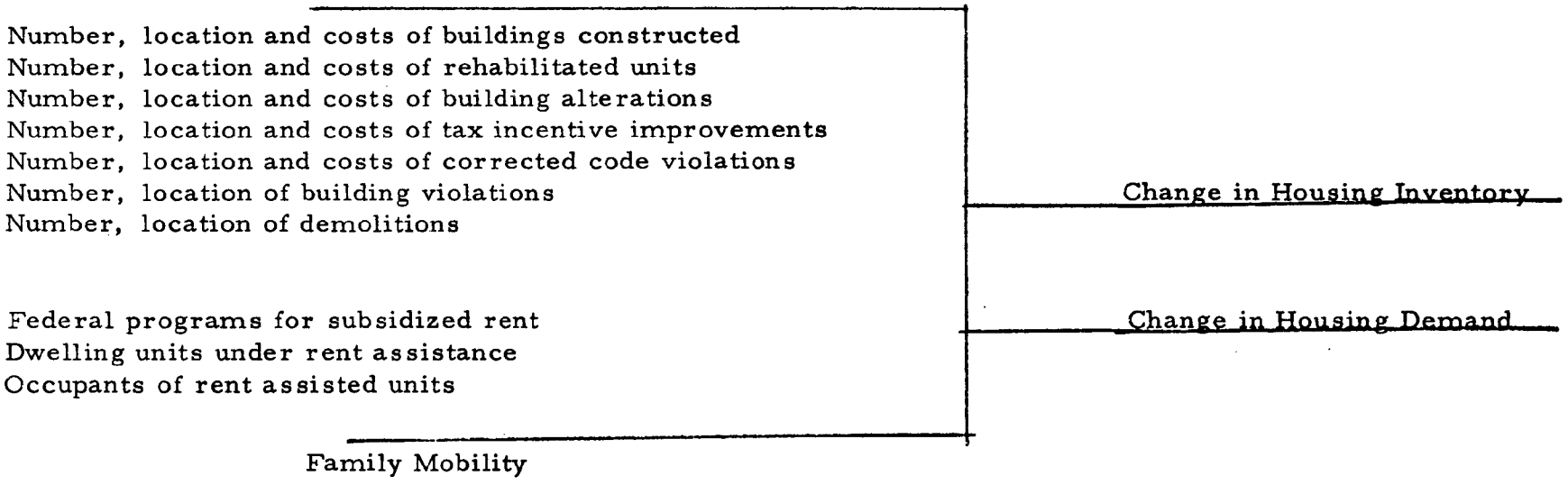
STEP 2 - Data related to defining Housing supply (continued)



STEP 3 - Housing Needs Analysis



STEP 4 - Data to measure housing progress:



There is no reason why virtually all the planning data needed in the housing area (except on the cost and fiscal side) cannot be made available through the new mark-sense inspection form. One weakness clearly is a lack of computerized data from Building Inspections which would fill the role of measuring private effort in the planning area. This is very important since housing programs are designed to stimulate private effort, and planning data (particularly of an evaluative type) must encompass the private sphere.

The key problem, however, is lack of fiscal data. The problem in housing is particularly complex since the funding programs are so diverse and detailed. Aggregation of the great masses of housing data will be of limited use unless the data can be related to the fiscal system.

A second key problem is lack of actual cost data (other than the underestimated costs listed in permit applications) which would lend a reasonable degree of precision to cost projections in the housing area.

(iii) Functional Planning in Other Areas

Health -- Providence, having given up its hospital and health inspection function, has reduced its health role considerably.[17]

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17 However, the City does not surrender its concern for health services to its individual citizens because it operates few health facilities. There is good reason to continue measuring citizen need in the health area to determine where City action can stimulate better private or state effort or where City action is needed to fill gaps. This, of course, is part of the function of Progress for Providence.

Its remaining role is essentially in environmental health (sewage, garbage and refuse disposal, etc.) where planning is fairly limited, except in the area of water supply and purification which falls generally in the health orbit.

The problems for the City in this area of environmental health are essentially regional in nature since Providence provides water and sewage disposal service beyond its borders. Air pollution is also a regional problem.[18]

The trend in Rhode Island is for these functions to pass to the State, rather than to metropolitan service districts. Clearly one of the largest problems in this area is whether the City should transfer these functions to a larger governmental entity, and, if so, whether this entity should be a metropolitan government or the State. This decision could be better made if planners defined the probable needs and supply in a monetary context.

The planning data required in this area is in large part engineering data of a type not easily handled by city planners.[19]

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18 It might also be noted that certain recreational areas of Providence are actually regional in their service area, e.g., Roger Williams Park.

19 Detailed records exist in Public Works on the volume of waste handled over the years as well as the capacity of facilities. Related to data on population and business for the area (which is sufficiently specific for this planning purpose). There is a reasonable data base.

There is, however, a need for development of planning in the areas of sewage, waste and refuse disposal where major capital expenditures may be required. Water planning is well-developed and is again a rather technical endeavor not normally within the orbit of city planners.

Transportation --Transportation planning in Rhode Island, as elsewhere, has been essentially a state concern. The circulation plan for Providence was keyed to state plans and the effect of major expressway construction on the city traffic pattern. Moreover, the major public transportation system for the City is state-controlled.

Nonetheless, Providence has a major street network under its control and a role to play in influencing circulation patterns. Questions of street and bridge maintenance and coordination are essentially transportation problems, related to present and anticipated street use, as well as street condition. At present, there is virtually no planning with respect to streets and bridges and no link between Public Works and the Traffic Engineer.[20]

Planning data on streets and bridges is very limited and filed so poorly that it is not usable. Traffic data, while complete in many regards, lacks current origin and destination data,

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[20] The function of traffic planning has been transferred to the new department of Planning and Urban Development. This function, due to the press of day-to-day operational problems, was not accorded a high priority in Traffic Engineering.

the principal source being the state planners.[21]

Income Generation and Support -- There are three basic programs generally pursued in this area: Encouragement of business investment; improved training and placement of prospective employees; and support of those unable to care for themselves. Again, it is apparent that the State occupies a dominant role in this area through its programs to attract business into the State, its control of welfare and unemployment compensation. Nonetheless, the City has retained an important role in this area through its industrial redevelopment program, its downtown Master Plan,[22] its vocational education, job placement and Neighborhood Youth Corps program under the School Department and its administration of general public assistance.

It is apparent that Providence will soon transfer all welfare operations to the State and that industrial redevelopment is not now a high priority, although port development is a possible consideration. Thus, it seems likely that most effort in this area will be devoted to planning programs for vocational training, raising job skill, placement, etc., with particular emphasis on young adults.

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21 The State Transportation planners still use 1960 as their base year. They collect origin and destination data, population data and land use data which is geared to state-wide rather than municipal use.

22 In a sense, the Hurricane Barrier was an expenditure in support of business since the downtown business area was hit the worst by hurricane flooding.

Planning data in this whole economic area is very weak at the city level, since the State records most of the relevant data. However, the state data is generally not available to the City in a very meaningful way.[23] Thus, a serious data void exists.

Leisure -- Recreational, beautification and cultural activities are very much within the city orbit and subject almost completely to its planning process. The significance of these activities in preserving the viability of the City is inestimable, and, in fact, there has been a sharp rise in the recreational expenditures over the last five years. There has also been some effort devoted to recreational planning, However, there has been virtually no program planning in the area of beautification and culture, and the City has not expended much money toward these ends.[24]

The planning data in these areas is limited by a paucity of records in the Parks Department on everything but trees,

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23 The State Department of Employment Security, a key source, keeps its records in such a way that it is difficult to get data on a city-wide basis, much less on a neighborhood basis. Moreover, its data is not in machine readable form and subject to some confidentiality restrictions. (See data back-up for more detail.)

24 Roger Williams Park and the Providence Public Library (which gets a City grant) consume most of this expenditure. The City has made very minor appropriations for the zoo, museums, band concerts, etc., and has done little to encourage private cultural activity. The Federally-financed repertory theatre represents one of the major cultural breakthroughs.

by the dubious utility of recreational data on facility use and program activity, and by lack of an index of private cultural activity.[25]

Public Safety -- This program area, which encompasses most Police Department and Fire Department activities, as well as Civil Defense, has not been characterized by planning except in the Civil Defense area where the State and Federal Government influence has been felt. Since both the Police and Fire Departments operate on a more or less emergency basis, long-range program planning has never assumed a large scale, and, in fact, there is probably not a pressing need for program planning in this area.

However, even in this area certain large problems of planning significance loom, one being increased allocation for recruitment and training of personnel with inevitable side effects on salary structure. The recent Federal legislation on aid for law enforcement training is a harbinger of things to come, and this development has been anticipated in Mayor Doorley's recent inaugural address.

The availability of planning data in this area is generally quite good.

c) List of Data Planning Items

There follows a list of planning data items by department and program category:

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25 There is an index to historically important sites in one section of the City prepared by the Historic District Commission. These sites should be cross-indexed to the Tax Assessor's records.

*(in machine readable form)

Planning Data by Source and Program Area (arranged by departments)

Data Item	Department	Document	Planning Data Code	Recorded Elsewhere
1. Structural detail	Minimum Housing	New mark-sense inspection form	1	(Some overlap w/ Fire Dept. index cards, Family Relocation and Rehabilitation Surveys)
2. Dwelling unit detail			1	
3. MPS detail			1	
4. Number of occupants by age, sex, relationship			0, 1, 2, 3, 6	
5. Race of household			0, 1, 2, 6	Family Relocation
6. Type of tenure			1	Family Relocation, Rehabilitation
7. Rent			1	Family Relocation, Rehabilitation
8. Family income			0, 1, 2, 3, 5, 6	Family Relocation, Rehabilitation
9. Occupation head of household			5	Rehabilitation
10. Date of inspection			1	
11. Vacancy			1	Family Relocation
12. Number of rooms by type			1	
13. Floor occupied (in whole or part)			1	
14. Scoring index			0, 1, 3	Family Relocation (APHA)
15. Birth data (0-24 yrs. group)	School	State School Census* card (used 1st time this year)	0, 2, 6	
16. School attended by child			2	
17. School district of child			2	
18. Last school attended by child			2	School follow-up card
19. Marital status (0-24 group)			2	School follow-up card

Legend Planning Data Code

Affects Base Data - 0
Housing 1
Education 2
Health 3
Transportation 4
Income Generation & Support 5
Leisure 6
Public Safety 7

Not included herein:
1. Action programs
2. Expenditures
3. Funding programs

Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
20. Guardian relationship to child			2	
21. Type of school attended by child			2	
22. Type of work			2, 5	School follow-up card
23. Grade attending or last grade attended			2, 5	School follow-up card
24. School enrollment		Enrollment card	0, 2	Census card
25. Change of address by pupil		Change of address card	1 (intra-city mobility)	Census card
26. Dismissal or transfer of pupil		Dismissal or transfer card	2	
27. Pupil dropouts		Pupil retention card*	2, 5	Census card
28. Pupil IQ achievement		Pupil permanent record	2	
29. Pupil health		Pupil health card, school nurse's report, physician's report	3	(becoming a state function)
30. Transfer out of school district		Transfer form	2	
31. Job placement referrals		Introduction form	2, 5	
32. Job placements		Employer mail-back	2, 5	
33. Post-graduate employment, education, service		Pupil follow-up card	2, 5	Census card
34. Pupils w/maladjusted homes		Maladjusted home card	2, 7 (juvenile problems)	
35. Truant data		Truancy card	2, 7 (juvenile problems)	
36. Classroom and facility inventory		State inventory card* (IBM)	2	
37. List of parking areas for City	Traffic Engineer	Parking index cards	4	
38. Traffic flow data		Street and intersection traffic count records	4	
39. Street age and condition data	Public Works	Index cards, Highway Engineer. section	4	

	Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
40.	Sewer age and condition data	Public Works	Inspector's book, Engineer's book, Engineer's profile map	3	
41.	Bridge age and condition		-------	4	
42.	Data on work load and capacity of incinerators,		Annual compilation of reports on loads received	3	
	land fill and dump,		-------	3	
	sewage disposal plants,		Annual reports of sewage treatment plant (based on monthly report)	3	
	sewage pumping		Compilation of monthly flow reports	3	
43.	Zoning map	City Plan*	Map	1	
44.	Zoning variances**	" "	Referral records	1	
45.	Criminal offenses	Police Dept.	Offense form*	7	
46.	Arrests (by crime, address of offender, age, etc.)	" "	Arrest form*	7	
47.	Referrals of juveniles to Family Court		Family Court juvenile card	7	
48.	Births (legitimate & illegitimate), deaths, marriages, infant mortality	State Health Dept. (also) City (Vital Statistics)	Vital Statistics* IBM card	0, 3	City and State overlap
49.	Communicable Disease	State Health Department (Epidemiology)	Cards by disease and patient (city and street address)	3	
50.	Welfare payments and recipients by address	State Dept. of Public Welfare	Master Card and* detail card (IBM)		

* Land use data, recorded in machine-readable form, is in the possession of City Plan and included at end of list.

** Includes "special exceptions" as herein used.

	Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
51.	Community social agencies	State Dept. of Public Welfare, Progress for/ Providence	Social Service Index Providence Social Index (coded for data processing)	0	
52.	List of Providence businesses by S.I.C. numbers	R.I. Development Council	Booklet	0, 5	
53.	Employment by category of business (not S.I.C. nos.)	State Dept. of Employment Security	Based on quarterly reports of employment	0, 5	
54.	Recipients of unemployment insurance		Special name & address cards in Providence office of DES	5	
55.	Job openings in Providence (youth office)		Employer listings by D.O.T. category	5	
56.	Number of employees by skill listed with DES		Employee listings - can be collated by D.O.T. categories	5	
57.	Number of Providence citizens in training programs		------	5	
58.	Sales Tax payments of Providence businesses (by installation)	State Dept. of Adm. (Tax Div.)	Master and detail cards*	5 (confidentiality problem)	
59.	Structural damage due to fire	Fire Dept.	Special fire investigation form	1	
60.	Building safety records	Bldg. Inspec.	Inspection reports	1	
61.	Building construction & estimated cost		Permit application	1	
62.	Building alteration & estimated cost		" "	1	Rehabilitation

	Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
63.	Demolitions	Bldg. Inspec.	Application permit	1	
64.	Land Use Changes		Certificate of occupancy	1	
65.	Air Pollution readings		Record Cards for Nat'l Air Sampling Network	3	
66.	Violations of building code		Letters, Court process	1	
67.	Land, building and total valuation	Tax Assessor	IBM real estate detail card*	0, 1	
68.	Land area		Property card	0, 1	
69.	Age of structures		" "	0, 1	
70.	Topography		" "	1	
71.	Streets (serving particular lots)		" "	1	Possible application to business renewal (5)
72.	Utility services (by lot)		" "	1	
73.	Drainage		" "	1	
74.	Use		" "	1	
75.	Sales price of realty	Recorder	Deed		
76.	Location of water distribution lines & connection by address	Water Supply	Water Distribution Maps	3, 1	
77.	Industrial and commercial companies listed by water use		Customer cards	0, 5	
78.	Street index by street section		Index to Distribution Maps	3, 4 (engineering planning generally)	
79.	Vacancies	Family Relocation	Vacancy Index Cards	1	

	Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
80.	Rent	Family Relocation	Vacancy Index Card	1	Minimum Housing, Rehabilitation
81.	Structural condition		APHA Form	1	Minimum Housing, Rehabilitation
82.	Dwelling Unit condition		" "	1	Minimum Housing, Rehabilitation
83.	Scoring index		Scoring Form	0, 1, 3	Minimum Housing
84.	Family income		Site occupant relocation card	0, 1, 2, 3, 5, 6	Minimum Housing, Rehabilitation
85.	Race of family			0, 1, 2, 6	Minimum Housing
86.	Family composition			0, 1, 2, 3, 6	Minimum Housing, Rehabilitation
87.	Place of employment			5	
88.	Family Relocation payments		Report on Relocation of Families and Individuals	1	
89.	Business Relocation payments	Redevelopment	Business Site Relocation Record	5	
90.	Businesses Relocated		" " "	5	
91.	Structural condition	Rehabilitation Unit of Redevelopment	Property Card	1	Minimum Housing, Family Relocation
92.	Dwelling Unit condition			1	Minimum Housing, Family Relocation
93.	Lot area			1	Tax Assessor
94.	Tax assessment data			1	Tax Assessor
95.	Permits issued			1	Building Inspection
96.	Estimated rehabilitation cost			1	
97.	Income		Owner and Tenant Data Cards	0, 1, 2, 3, 5, 6	Minimum Housing, Family Relocation

	Data Item	Dept.	Document	Planning Data Code	Recorded Elsewhere
98.	Family composition	Rehabilitation Unit of Redevelopment	Owner and Tenant Data Cards	0, 1, 2, 3, 6	Minimum Housing, Family Relocation
99.	Employment		" " "	1, 5	Minimum Housing
100.	Tenure data		Tenant Data Card	1	Minimum Housing, Family Relocation
101.	Rent		" " "	1	Minimum Housing, Family Relocation
102.	City-wide data on population, by age, race, sex	U.S. Dept. of Commerce	1965 Census	0	School Census in part
103.	City-wide data on income	" "	1960 Census	0	
104.	Inventory of City trees	Parks	Forestry Dept. Index	6	
105.	Use of City recreational areas, City recreation programs	Recreation	Weekly attendance counts by center, by program	6	
106.	Locations of historic sites	Historic District Commission		6	
107.	Land use	City Plan	IBM cards	0	

d) Data Gaps

When viewed in the light of the total planning process, the principal gaps in the Providence planning are fiscal gaps. Thus, the primary gaps in the Providence data system are:

(1) Lack of City fiscal data which can easily be grouped around program planning objectives;

(2) lack of systematized data on State and Federal funding which can be related to program planning objectives.

Other major gaps in planning data are:

(1) Lack of economic data pertaining to business classifications,[26] job skills, job availability, job training programs, unemployment, underemployment, etc. The proposed PAS school census will partially fill this need;

(2) lack of current land use data, good land use categories and a system for keeping land use records current;

(3) lack of data on non-residential structures and businesses generally;

(4) lack of current data on income, tenure or rents;

(5) lack of current, usable data on the condition of residential structures and costs of alteration;

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26 While there is a strong desire to build S.I.C. classification into the data system of the City, it may be wise to use the broader categories of DES which are tailored to Rhode Island. Moreover, DES is the principal economic data center (Labor Statistics being more esoteric).

(6) lack of data on institutional and government employment;

(7) lack of data on mobility and migration.

3. Major Problems of Data Systematization

No one in the City Government is charged with the responsibility of supervising the data system. This absence of strong managerial control permits inefficiency and lack of systematization which is not only wasteful of resources but raises serious obstacles to making the system serve central managerial and planning needs. Moreover, continuing analysis of the data system is an important way of reducing overlap in both activities and recordkeeping as well as increasing inter-departmental cooperation.

To give an in-depth systems analysis of the Providence data system is a major project beyond the scope of the data survey which was conducted in this study. However, the survey was adequate to indicate in some detail the major problems of data systems development and to point out a number of inefficiencies at the departmental level.[27]

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27 This section addresses itself to systems problems of general city-wide scope but certain inefficiencies at the departmental level are treated in data books submitted separately. It can be noted that the major departmental data problems are to be found in the Engineering Section of Public Works and in Building Inspections. Problems of a somewhat lesser scope exist in the Fire Department, the business office of Public Works, Minimum Housing, Parks, Recreation and the Juvenile Delinquency and Prosecutions Unit of the Police Department. Standing in a class by itself is the City Health Department which performs a largely redundant operation in the collection of vital statistics since the State not only performs the same function but does it more accurately. Overall, there is a great need for some centrally located official to constantly challenge departmental data systems, some of which are very cumbersome and some of which are incredibly limited.

There are three major areas of the City data system which require broad systematization:

(1) Property and housing data;

(2) engineering and facility data;

(3) data on people and their behavior.

In the following pages the problem of systematization in these three areas is illustrated by grouping City agencies in terms of their data systems and organizing them in three groups corresponding to the above three areas.[28] Thus, in Group 1 are agencies dealing primarily with housing and property (Minimum Housing, Tax Assessor, etc.); Group 2 contains utility and public service agencies (Water Supply, Public Works, etc.); Group 3 contains those agencies dealing directly with people on a personal basis (School, Police, etc.).

The agencies in each group have similar data systems. By analyzing the inter-relationship between data collecting agencies in each group, the basic problems of systematization can be illustrated.

Clearly, the priority systems problem is geographic compatibility between data collected in many different locations for a broad variety of purposes. This problem is common to the whole data system and

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28 The planning agencies are omitted primarily because they tend to collect data from other operating agencies and do not generate a great deal of data.

transcends group categories.

There follows a chart illustrating the problem of geographic compatibility.

	Departments or Agencies	Street Address	Census Block and Tract	Assessor's Lot, Plat	Recorder's Lot, Plat	Metes, Bounds	Ward and Election District	Street Sections & Intersections	Zoning District	Dept. District	Facility Location
	1. Tax Assessor	X		Cross-index X	X				X		
	2. Recorder	X			X	X					
	3. Building Inspections	X		X			X (Structures zoning)		X (Structures & zoning)	Bldg. Dist. Fire Dist.	
GROUP 1	4. Fire Department	X						X (alarm control, non-structural files)		Battalion; Inspection Dist.	Fire Box
GROUP 1	5. Minimum Housing	X	X	X							
GROUP 1	6. Redevelopment - Housing Survey Inspec.	X	X (put on APHA form by Family Relocation)							Urban Renewal	
GROUP 1	7. Redevelopment - Land Acquisition and Sale	(Unique lot system based on HUD regulations)								Urban Renewal	
	8. Redevelopment Engineering							X		Urban Renewal	All utilities
	9. Traffic Engineering							X			
GROUP 2	10. Water Supply	X[1]			X			X			Reservoirs, purification plants, etc.
GROUP 2	11. Public Works (Family Relocation included in #6)	X[1]		Plat book used for sewer data				X	Some data on zoning amend.	Many districts, snow removal, drainage, etc.	Several public bldgs., sewage installations, etc.
GROUP 2	12. Parks - generally										Park areas, very generally
GROUP 2	13. Parks - Forestry	X[1]						(Some on street basis, e.g., Mall)			
GROUP 2	14. Recreation[2]						X	X			Centers, play areas

[1] Primarily kept to charge for services.

[2] Although activities are people-oriented, records are not.

	(Continued) Departments or Agencies	Street Address	Census Block and Tract	Assessor's Lot, Plat	Recorder's Lot, Plat	Metes, Bounds	Ward and Election District	Street Sections & Intersections	Zoning District	Dept. District	Facility Location
	15. School - census	X	X (just tract)							School Dist.	School attending
	16. School - generally	X									School attending
	17. Health (vital statistics)	X									
GROUP 3	18. Welfare (mostly state)	X								Welfare Dist.	
GROUP 3	19. Police	X[3]	X (arrest & offense form)					X (traffic reports)		Patrol Dist.	School for juvenile
GROUP 3	20. Board of Canvassers	X									
GROUP 3	21. Family Relocation Social Service	X								Urban Renewal	

[3] Offense report has place of occurrence; arrest form has address of person arrested.

a) Geographic Systematization

Street Addresses

(1) Street addresses are the most widely used geographic designation for operating purposes. Thus, virtually all data on property and housing (Group 1) and people (Group 3) is collected by street addresses and is thus capable of aggregation in larger geographic units.[29]

(2) Great confusion exists in the City at present, as to street address numbers, there being no accurate official records at a central point (Public Works has nominal control), the closest approach thereto being the Water Supply Records. Aggregation of city-wide street address information is now in progress, but in order to make street address data a key factor in coordinating various geographic data items (lot, block, etc.), establishment of a more highly organized and accurate official system is needed, particularly for assignment of new numbers.

Tax Assessor's Lots and Plats

(1) There is no general use of Tax Assessor's designations in Group 1 and actually no use in Groups 2 or 3. Outside of the Assessor's office, the plat lot designations have little operational

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[29] Data cannot be aggregated downward beyond the smallest unit in which it enters the system.

utility (Building Inspection and Minimum Housing use this primarily because of need to coordinate with the Assessor in exchange of information).

(2) The value of the Tax Assessor's designations are that they provide the only city-wide property classifications based upon a dynamic operational system (as opposed to the Recorder's system).

(3) Assessor's lots provide a basis for integration. Data collected at several street addresses in the same structure (two or three family houses) or data collected on several structures on the same lot can be collected around a lot number.

(4) An additional aspect of the Tax Assessor's system is its flexibility. It reflects the change in parcel structure resulting from ownership changes and change in valuation due to major structural changes. There does, however, appear to be some basis for better coding of multiple structures on one parcel.

(5) The Tax Assessor's data provides data on land and extends to land for which no street address has been assigned or which is unimproved. This land data is the foundation of the whole system and provides a means to collate structural data collected in various departments.

(6) In short, the Tax Assessor's plat-lot designations provide totality, integration, flexibility, strong foundation and operational

relevance. They are the key to any geographic system despite their lack of general operational utility.

Census Block and Tract

(1) Census blocks and tracts have virtually no operational significance and are primarily of planning significance. Outside of Minimum Housing, where the record system is keyed to census tracts, census designations serve neither to describe or integrate operational data.[30]

(2) Blocks represent a convenient unit around which to aggregate data for planning and analytical purposes and tend to be fairly static. But, a block numbering system could exist quite independently of the Federal census designations. For the immediate future Federal census designations will probably be of some utility, but it is not advisable to get too intertwined with an outside numbering system bearing no relation to city operations and yielding data at infrequent intervals.

(3) Blocks provide the main basis for integrating Group 1 and Group 3 data, Tax Assessor's lots being not only too small but having no significance in Group 3.

Cross-Indexing of Street Addresses, Census Block Tracts, Assessor's Plats and Lots

(1) The cross-index even if not computerized will be of help to the agencies which frequently need to make the transition from one unit

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30 Census tracts and blocks are used to integrate data pertaining to school attendance, social statistics and business census data.

to another (Minimum Housing, Building Inspection, Tax Assessor, and to some extent Redevelopment). It would appear to be of much less utility to planners in a manual form.

(2) The cross-index is something which should be computerized to make the variety of complex translations involved. Certainly, if Minimum Housing data and School Census data are computerized, an automated cross-index would be useful to link this data with existing computerized data (mainly, Police and Tax Assessor data).[31]

(3) Updating of the index will probably be keyed to the Tax Assessor's records, the most dynamic of the three factors. If the cross-index were computerized, this would involve periodic change reports from the Assessor to data processing as his plat maps and numbering are altered to reflect parcel changes. These could easily accompany the now reported changes in name and address cards and detail cards.

(4) The question arises as to whether the cross-index should extend to any other geographic unit and, if so, how.

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[31] There is no great value in computerizing the index if data forms bear all three of the major geographic designations since the translations will show on the face of the forms. However, computerization of the index (and updating thereof) would serve a purpose in saving keypunching operation time by automatically translating geographic data into other units.

Recorder's Lots and Plats

The Recorder's records are in many ways basic to the whole city system and are deeply intertwined with those of the Assessor who must update his records and sometimes his maps as property changes hands. A manual cross-index of sorts already exists between the Recorder's system and the Assessor's system, and the Tax Assessor maintains chain of title cards for each lot. Water Supply also closely ties its system to the Recorder's records.

Unfortunately, the Recorder's system is very archaic, being based on a grantor-grantee index which does not easily permit collection of data on a lot basis.[32] Moreover, metes and bounds descriptions without plat or lot references still occur. Before there is any consideration of tying Recorder's lots into a general indexing system or even computerized cross-index with the Tax Assessor, some consideration should be given to having the Recorder set up a tract index which would permit easier cross-indexing with other geographic designations and which would, among other things, give chain-of-title information in one place.

Wards

Very few City agencies (e.g., Structure and Zoning Division of Building Inspection and Forestry) use ward designations on

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32 Any agency in the housing or property area should be able to interrelate data pertaining to a particular lot. Building Inspection is also weak in this regard.

forms. There does, however, seem to be some basis for bringing wards into a cross-index if it is computerized.[33] One is that it gives the legislative branch a meaningful and quick access to the City data system; the second is that it is easy to do since there are only thirteen wards; the third is that there is already a computerized link between street addresses and wards through the voting records.

Urban Renewal Districts

It is clear from the preceding chart that there is data in each of the three major groups which is presently collected around renewal districts. These districts are not temporary in significance (redevelopment contracts have 40-year terms), and the ability to quickly extract data on a district basis will be meaningful for immediate reporting purposes as well as long-range analytical purposes. Again, these districts are few in number and quite large, making it easy to tie them into a computerized cross-index.

School Districts and Zoning Districts

The school districts seem to be of limited operational use in Providence and, due to the broad latitude allowed in choice of schools, are probably not worth cross-indexing. Zoning districts are less descriptive of geographic location than of the land use law applying

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33 There is no point in having ward designation on input forms since it is not of much operational or planning utility.

in various areas. Moreover, there is poor land use data. There seems to be no pressing reason for cross-indexing zoning districts, but it should be computerized later (see infra).

b) Systematization of Property and Housing Data (Group 1)

(i) Structural and housing condition data

Within the overall area of property and housing data, the greatest data problem derives from overlap and gaps in inspectional activity.[34] The three major types of data are derived from this activity -- basic structural data, enforcement and violations data and permit and work supervision data.

Basic structural data is data reflecting in depth the condition of a structure. When existing on a city-wide or sectional basis and reflecting the condition of physical structures at a point in time, it can be considered base planning data. This type of data has been derived in three major ways: Regular inspection routine to record data on safety or habitability of a structure[35]; surveys of structures in a renewal area; and general city-wide surveys.

Enforcement data is derived mainly from inspections pursuant to referrals, complaints or initial inspections. Violations data is generated as a corollary of the activity (e.g., violation notices, etc.).

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[34] The City is trying to come to grip with the problems by reorganization and through improving inspection forms.

[35] As opposed to inspections aimed at specific violations (complaints, referrals, reinspections) or inspections pursuant to permit applications.

Permit and work supervision data is generated by requests for occupancy and construction permits and the inspections in connection therewith. This is an almost exclusive preserve of Building Inspections so that there is little overlap in this area.

The following chart reflects generally the data gaps and data overlap deriving from inspectional activities.

DEPARTMENTAL DATA COLLECTION ON STRUCTURAL AND HOUSING CONDITIONS
(Based on Pre-reorganization Designations)

		RESIDENTIAL				NON-RESIDENTIAL			
	Departments	Basic Structural Data	Enforcement & Violation Data: Inspections	Enforcement & Violation Data: Violation Enforcement Procedure	Work Supervision and Permit Data	Basic Structural Data	Enforcement and Violation Data: Inspections	Enforcement and Violation Data: Violation Enforcement Procedure	Work Supervision and Permit Data
HABITABILITY	Minimum Housing Agency	1) Initial Inspections 2) Special Renewal	1) Complaint Inspections 2) Reinspections 3) Referral Inspections	1) Notices and Court process Housing Code					
	Family Relocation Agency	1) Regular Renewal Surveys 2) Inspection of relocation housing							
SAFETY	Building Inspections Dept.	1) Special Renewal Surveys	1) Complaint Inspections 2) Referral Inspections (including electrical fire inspections)	1) Notices and Court process Building Code	1) Plan approval 2) Zoning checks 3) Inspections pursuant to permit application 4) Issuance certificate of occupancy 5) General permit control	1) Regular inspection of buildings used by lot of people 2) Surveys on non-residential property in renewal areas	1) Complaint Inspections 2) Referral Inspections (including electrical fire inspections)	1) Notices and Court process Building Code	1) Plan approval 2) Zoning check 3) Inspection pursuant to permit application 4) Issuance of certificate of occupancy 5) General permit control
	Fire Department		1) Complaint Inspections 2) Referral Inspections (including those from in-service inspectors) 3) Fire investigation (a) in-service (b) regular			1) Regular inspections of buildings used by a lot of people: (a) by in-service inspectors (b) by regular fire inspectors	1) Complaint Inspections 2) Referral Inspections (including those from in-service inspectors) 3) Fire investigations		1) Some work on permits for storing flammables

DEPARTMENTAL DATA COLLECTION ON STRUCTURAL AND HOUSING CONDITIONS (continued)

	RESIDENTIAL				NON-RESIDENTIAL			
Departments	Basic Structural Data	Enforcement & Violation Data		Work Supervision and Permit Data	Basic Structural Data	Enforcement and Violation Data		Work Supervision and Permit Data
		Inspections	Violation Enforcement Procedure			Inspections	Violation Enforcement Procedure	
Tax Assessor	1) Revaluation Surveys (10 year intervals)		(wishes to receive notice when improvements done under legal coercion)	1) Field Surveys based on permits sought from Building Inspection	1) Revaluation Surveys (10 year intervals)			1) Field Surveys based on permits sought from Building Inspection
Redevelopment (Rehabilitation)	1) Regular Renewal Surveys							
City Plan	1) CRP Survey (one-shot) 2) Land Use Survey (infrequent intervals) - not too germane							

Certain general conclusions can be drawn with respect to the various types of inspectional data:

(1) There is no comprehensive data on structural condition, except the CRP data and the tax revaluation data, neither of which is a good data base for one or more of the following reasons: Age of the data; narrowness of the purpose for which it was collected; failure to adapt the data to an operational system for updating use; or the validity of the data. However, certain aspects of this data (e.g., building type, number of stories, etc.) have some enduring validity.

(2) The Minimum Housing inspectors, working with a mark-sense form, cannot build a city-wide data base on residential structures because they operate on a geographically and chronologically piece-meal basis. However, the form would be ideal to update a comprehensive survey when such is conducted.

(3) Any future city-wide survey should be as comprehensive as possible, serving as many data needs as possible, not some relatively narrow purpose (e.g., land use categorization, real estate valuation).[36] Not many chances occur to cover the City

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36 At all times such a data-gathering undertaking should be subjected to cost-benefit analysis because there is no point in gathering data just for the purpose of having it. The added cost of a more comprehensive survey must be justified by the worth of the additional data.

comprehensively at one time and the opportunity should not be missed to build a firm and comprehensive data base.[37] This data should be adapted to computerization but more important it should be built into the ongoing inspectional system, so that it retains its usefulness.

(4) If Minimum Housing inspection were properly scheduled and coordinated with Family Relocation and Rehabilitation (each of which agencies conduct housing surveys with their own forms), a solid base could be laid in a renewal area. This will entail a recognition of two basic facts:

(a) The Minimum Housing inspection is not just a means of spotting code violations but can be the foremost data-gathering device in the City;

(b) that a primary use of Minimum Housing data will be in renewal applications and renewal planning, so that renewal consideration must be weighed against code enforcement.

(5) Consideration should be given to slightly broadening inspection forms used in non-residential inspections, so that a few additional items of planning utility could be gathered. In particular, such a form could be used to gather certain economic data which is now difficult to come by, such as employee skills, employee residence, etc.

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37 Again it is important to note that sheer mass of data does not create quality planning. Perhaps of more significance are the techniques for using data. Using a computer to apply statistical techniques to data samples or small groupings of data, a high degree of planning reliability can be achieved.

Under the present system fire inspectors have the most systematized nonresidential inspection records, although Building Inspections has, on occasion, conducted systematic nonresidential inspections for Redevelopment. There is a sound reason for combining the regularized inspection routine of the regular fire inspectors and the building code inspectors and establishing a broader data base in the nonresidential area.

(6) As presently anticipated, housing inspection data will be computerized and will include violations data and basic structural and dwelling unit data on a lot basis. Certain Assessor's data will also be available in a computerized form. What will be lacking for a full picture is data on important structural change from Building Inspections.[38] To balance this picture consideration should be given to preparing an IBM input card on which Building Inspections can report on a plat-lot basis all major structural changes and their estimated valuation. Output reports would be in the form of building trend analysis.

(ii) Land Use and Zoning Data

An important aspect of property data is the question of land use which is one of the more significant pieces of base planning data in the City. However, land use is descriptive of what

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[38] This is indirectly reflected in the Tax Assessor's valuations.

exists, not what ought to be. The "ought" is contained primarily in the zoning ordinances and master use plan. Thus, land use data is not only significant as descriptive data, but when compared to the zoning law and master plan uses, it reveals the success or failure of the City in controlling and directing land use toward pre-determined ends. The following chart generally illustrates the departmental distribution of zoning and land use responsibilitities in Providence:

	CITY PLAN	CITY COUNCIL	TAX ASSESSOR	BUILDING INSPECTIONS	ZONING BOARD	MINIMUM HOUSING	FAMILY RELOCATION	REDEVELOPMENT
A. What Ought to Be								
1. Zoning Ordinance and Master Plan Use	X	X						
2. Use of Zoning Designations in Operational Records			X	X				
3. Supervision on Zoning Ordinance				X				
4. Changes in Zoning Ordinance or Master Plan	X	X						
B. What Is[39]								
1. Actual Land Use --								
a. general survey	X							
b. data item in operational records			X	X		X[40]	X[40]	X
2. Changes in Land Use --								
a. variances and special exceptions	X			X	X			
b. changes reflected in certificate of occupancy				X				
c. informal changes		(not encompassed by present system)						

39 "What Is" is here cited in a narrow sense of primary land use, not the many minor uses of structural characteristics encompassed by the zoning ordinance.

40 No use item as such but use can be inferred since these inspections are in the residential category and fairly easy to break down.

The basic problem in zoning and land use data is that it is very difficult to tie land use information to a current, ongoing system. The obvious vehicle for keeping land use data current is the Tax Assessor's file. However, the very broad categories of land use established by the state-wide assessor's code are not of great use on a local level. Thus, even if the adoption of the new zoning ordinance tends to settle "what ought to be," a current version of "what is" will be difficult to obtain. Moreover, even if such data exists, it will be difficult to measure it against zoning requirements without development of a new coding system.

One possible solution to this problem is the development of a more detailed land use code by the Assessor, which code would meet the requirements of state-wide uniformity as well as provide the detail necessary to cross-relate with the City zoning ordinance. Since this would probably have to be accomplished by development of a sub-code within the presently existing land use designation of the Assessor, the product might not be satisfactory to the planning department. It is nonetheless apparent that an automated updated land use system probably will require some link with the Tax Assessor's records.

Meanwhile it makes little sense to try and systematically record land use changes until a new data base is laid

by a comprehensive survey.[41] The continuing utility of this survey depends upon the employment of a use code which not only can be related to the Tax Assessor's code but which can be employed by all inspectional agencies. Thus, use data could be gleaned not only from formal use change methods (variances, exceptions and certificate of occupancy) but from inspectional sources. This will never provide a completely updated land use inventory since many unauthorized use changes will never be reflected in the data system. However, more of these unauthorized changes will be found if inspectional agencies are involved.

It is clear that zoning and land use data should eventually be computerized. Presumably, building age[42] and variance or exception (providing two major exceptions from the zoning laws) would also be reflected.

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41 Land use surveys are not per se justifiable. Necessity is assumed quite often, but the limited use made of this type of data sometimes makes such surveys dubious.

42 Building age has great significance in matters other than zoning. It is part of the Assessor's records and has great value in evaluating the housing stock. It has sufficient utility for planning that it should be included on one of the assessor's IBM detail cards. Lot area is also quite important in land use and should be computerized not only because of the land use aspect but because of its significance for assessment. At present, the Tax Assessor only computerizes area information on lots which have been sold, so that he can run analyses on ratios between sales prices and Assessor's valuation.

(iii) Valuation and Cost Data

A significant aspect of housing and property data is cost and value of land and property. Not numerous, these data items are nonetheless extremely significant in terms of their utility to the City for tax purposes, for measuring trends, for measuring the effect of renewal and for estimating renewal costs. Included in this category are:

Valuation Data

(1) Valuation of land
(2) Valuation of building
(3) Total valuation

Actual Cost Data

(1) Sales Price
(2) Cost of new construction
(3) Cost of alteration
(4) Cost of demolition
(5) Rental

Estimated Cost Data

(1) Acquisition and disposal appraisals
(2) Rehabilitation and appraisals
    a) Before and after
    b) Cost
(3) Estimated cost of new construction
(4) Estimated cost of alterations

The key data is the valuation data which is presently computerized for tax purposes, along with ownership data,[43] tax, etc. Also of great significance is the sale price data, now computerized for analysis of sales price-valuation ratios, usually more than a year or so after the sale has been recorded. The significance of the data, particularly to Redevelopment, would justify frequent computer reports and frequent posting by the Tax Assessor since he has to update the master card of owners after sales occur anyway.[44]

All other data listed are either too spotty or of too limited utility to be computerized strictly for planning purposes. However, the following items may lend themsleves to computerization for operational purposes:

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43 There is no planning utility but considerable operational utility in knowing who owns property. The Tax Assessor, Water Supply and the Collector must know for fiscal reasons; Minimum Housing and Building Inspections must know for enforcement reasons; the Police and Fire Departments must know for notification in case of emergency; the Land Acquisition unit of Redevelopment must know to purchase land, etc. In short, every time a deed is recorded on the sale of property with the Recorder or property passes through probate at least eight or nine city agencies are affected. The Recorder and the Probate Court circulate no notice, and the departments do not interchange such information if they acquire it. In short, each agency updates its records independently, some going in the Recorder's records (e.g., Tax Assessor) and others acquiring their information by surveys (e.g., the Police Department).

44 A real problem exists with historical continuity on sales which change lot lines or which are made pursuant to a widespread redevelopment plan. It is not possible to trace lots through this process without a very complex system, and it is probably not worth it. For historical purposes, therefore, a new lot history begins when the Tax Assessor changes his designation. This still permits, however, a recall of information pertaining to broader geographic units of which the lot is a part.

(1) Rental data, as the new housing inspection form and educational census form comes into use (an overlap is involved);

(2) estimated building and operational costs, as building inspection data on building trends are computerized;

(3) rehabilitation data, both on costs and estimates, since this data as it becomes more plentiful will serve both current operational and cost projection purposes.

c) Systematization of Engineering and Facility Data (Group 2)

Street sections (and intersections) are a natural geographic designation for data on streets, storm sewers, sanitary sewers, water distribution lines, city trees and shrubs, traffic, traffic equipment, etc.[45]

There is, however, little coordination in record-keeping between those agencies recording such data and considerable overlapping of activity due to the fact that the Engineering Section of Redevelopment assumes a dominant role over all engineering activities in a renewal area (e.g., streets, sewers, etc.).

There is some operational need for street section data:

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45 Street section coding, either by a special numbering system or by a block face code might be unduly cumbersome. The existence of a cross-index tied to streets suggests that it might be easier (though a long key-punching job) to simply group street addresses by street section and number the section by upper and lower address digits. It would then be possible for the assessor to relate water, sewer and street data to lots and plats (the Tax Assessor's property card includes such data).

(1) If the Traffic Engineer shifts his accident analysis to data processing, it would be appropriate to use both a street section code and intersection code.

(2) The Traffic Engineer also files traffic regulations, the location of equipment and traffic counts by street sections and intersections.

(3) There is a need for the Parks Department to keep better records on its planting, and street sections are a natural geographic unit for this purpose.

(4) Public Works needs a better system of coordinating data from its three engineering sections[46] and an improved system of keeping up records on street names and street abandonments.[47]

(5) the Fire Department Alarm Control needs a street intersection index to relate intersections to street numbers.

There is also a general planning need to know certain very general data on the location of facilities and certain basic

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46 Public Works is trying to end the long standing record gap between the highway, street line and sewer sections, which prevents any coherent picture of data bearing on one street section.

47 There is a very faulty system for keeping track of abandonments. There would be considerable merit in having Public Works maintain a central computerized file of basic street data, including age, surfaces, last work, nature of work, received or unreceived, curbed or uncurbed, etc. As streets were abandoned they could be dropped from this file and separately recorded.

facts about them. Maps may serve this purpose for any given service but for a combined picture of services in one area, a general computerized system would be useful. This would not appear to be a high-priority item and certainly the data included would not be of the detailed nature needed by engineering. But the City should, as a start, undertake a street and intersection section relating to the cross-index being prepared.

d) Systematization of People Data (Group 3)

The principal systems problem in this social area are integration with the state data, lack of computerized data and handling of demographic data.

The integration and collection problems with respect to state data loom large in this area because the City has been gradually turning over social functions to the State, primarily health and welfare, In matters pertaining to employment and economics generally, the State has always been the principal data source. One problem, of course, is that the state data would not be part of the City's operational data processing system and thus the data would have to be collected by the city planners at intervals. Another problem is that state data which is computerized is not always coded to the street address or block level. Finally, there is a confidentiality problem pertaining particularly to state data where businesses are involved.

Under these circumstances, it does not seem advisable to try to build state data into the City system on any permanent basis. The exceptions to this would be those planning data items in machine-readable form, coded to the level of geographic detail needed by city planners, and not rendered unusable by confidentiality requirements.[48] Another exception would be where state data serves a city operational need, as well as a planning need.[49]

At the City level there is a general lack of people data. Moreover, not much data is in machine-readable form, which means that people data is not readily accessible for planning purposes. The major exception is the Police Department, but even there juvenile delinquency data is mostly in manual form. The School Department is using the state census form (IBM) this year, but the data therein collected is not coded by census block which is the principal planning unit for use of people data. Voting data is computerized but of limited planning utility. The key in this whole area is the computerization of

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48 Very little state data meets these requirements. Most DES data can be gathered only on a difficult manual basis (but there are punch cards on employer reports). Data on Welfare payments and recipients is available. The State Sales Tax data is rendered almost useless by confidentiality. State Vital Statistics data is computerized and goes down to the tract level, which is probably adequate for demographic purposes. The State School census is usable, but it lacks a census block designation which reduces itsimmediate planning utility. The State Census is also useful for measuring migration between Providence and surrounding cities.

49 The Tax Assessor may need to use the S.I.C. designation for Providence businesses published by the RI Development Council. This will help to determine certain tax exemptions as well as provide better categorization for Providence businesses.

an expanded school census developing data in the economic and social area, where the City data is quite weak. Until this is done, there will be, in effect, no people data worth systematizing.

4. Data Processing

The principal features of the Providence data processing system have been adequately discussed in an earlier report to the City. No purpose is served therefore by any detailed repetition of this analysis. The observations made there remain valid and can be summarized as follows:

(1) The data processing unit has done a good job, and at times an outstanding job, despite laboring under many difficulties.

(2) The location of the data processing unit within the Finance Department has hindered the development of its service capabilities for other departments[50] and has created an unnecessary impediment to understanding and use of data processing by the Mayor.

(3) The budgeting system for data processing is inappropriate since it is essentially a service to other departments and best handled by a revolving fund budget in which users assume the budgetary burden of justifying their data processing needs. Under the

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50 The only applications outside the Finance Department are crime data reports for the Police Department, cost accounting reports for Public Works, voting lists for the Board of Canvassers, and some vital statistics reports for the Health Department. City Plan has used data processing for specific projects. However, various city departments are awakening to the possibilities of data processing. Education and housing alone offer limitless data processing uses.

current budgetary system, data processing is not likely to be given the financial support necessary to expand its services throughout the City government,[51] a development which is both likely and desirable.

(4) Providence cannot hope to effectively employ its new computer or to expand meaningfully the role of data processing with its present dearth of systems planners and programmers. The present personnel are hard-pressed to keep the day-to-day operations running, and no one has time to analyze current systems or plan for the future. Providence has made large outlays for new hardware, more than doubling its rental, but has not appropriated any money for programmers or systems personnel[52] of which there were too few even before the complication of switching over to a 360-30 arose. Aside from the inadequacy in number of personnel, salary scales are so low as to make recruitment and retention extremely difficult.[53]

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51 Evidence at all levels of government indicate that data processing costs for Providence over the next five years will increase at a much faster rate than total expenditures, so that the present level of expenditures (approximate 1/2 of 1 per cent) can be expected to at least double.

52 Providence spends approximately five times as much for hardware as for systems and programming personnel. A normal ratio would be one to one.

53 The State of Rhode Island pay scale for systems analysts and programmers is approximately 40 per cent higher than that of the City. The City should be thinking of starting pay in the neighborhood of $8,000 to $9,000 to be at all competitive.

(5) Machine utilization is very low.[54] The 360-30, which costs the City some $50,000 more per annum than its 1401, is used exactly as if it were a 1401[55] and is producing the same output as the cheaper computer.

In addition to these major features of the Providence data processing system, there are certain technical characteristics of the system which were not outlined in our previous report and are here noted:

(1) There is poor documentation of ADP operations relating to a given job, so that a change in key personnel could badly disrupt data processing. PMS has largely filled this gap by preparing flow charts on all existing systems. This should be kept current.

(2) At present, every application is composed of an overly complex combination of operations. This is due to the fact that the limited capacity of the 1401 required that jobs be broken down into small segments. Now that the 360-30 has been installed, with its increased memory capacity, these segments can, in most cases, be combined into single computer programs. Doing so would eliminate

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54 Providence uses the machine for only about 100 hours per month, although the rental is based on a use of 176 hours.

55 Understandably, there was a desire to avoid the costly process of re-programming the 1401 system for a 360-30. Consequently, a hardware option was ordered that allows the 360-30 to execute programs written for the 1401 without modification. However, in this mode a 360-30's additional power is not used, and it is virtually a 1401.

many slow, error-prone manual operations. For example, the Police Department's monthly offenses reporting system uses three separate programs to generate three separate reports from the same deck of input cards. These three programs could be combined into a single program that would produce all three reports, in sequence, without interruption. During the printing of the first report, the input cards could be recorded onto a disk. Upon completion of the first report, the second and then the third reports could be printed using the card images from the disk as input.

What previously required the loading of three programs and three input decks could be accomplished by loading one program and one input deck.

Similar consolidation is possible in most applications and would bring about a considerable saving in time, reduction of error, and simplification of operating procedures.

(3) Providence operators perform many manual operations which could be handled by an operating system consisting of a program or series of programs that search for, load and monitor the sequence of the user's programs, and document the history of the day's production. In addition, the operating system checks labels on input files and writes labels on output files. In short, an operating system automates many functions that were once the responsibility of the machine's operator.

In Providence's system, where input volume is low and most runs are relatively short in duration, the time spent performing these functions is quite high compared to the time that the computer is actually performing productive work. To get a program deck from a file cabinet, load it, write down the starting time and completion time for the run, and return the program deck to the file cabinet, requires at least two or three minutes of time assuming that the program has not been misplaced, is not dropped, and does not get jammed in the card reader. These minutes quickly accumulate to hours in the course of a week. A disk-oriented operating system -- one that searches for and loads programs from a disk file -- can perform these same functions without error, in about 10 seconds.

(4) Providence is not using COBOL (Common Business-Oriented Language), a language that fully utilizes the power of the new machine.[56] COBOL is a procedure-oriented, as opposed to machine-oriented, language. A procedure-oriented language is one that allows the programmer to give instructions to the computer by

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56 COBOL is particularly appropriate for systems involving extensive logic and calculation. For simpler programs, Providence might consider an IBM software package, known as RPG (Report Program Generator). RPG would be particularly helpful on the new school and housing applications and would be quite helpful in the interim period during a switch-over to COBOL.

describing procedures in a subset of the English language as opposed to describing them in machine-oriented symbols. For example, "IF YEAR-TO-DATE-FICA EXCEEDS 280.00, GO TO NEXT SENTENCE OTHERWISE, ADD THIS-MONTHS-FICA TO YEAR-TO-DATE-FICA.", is a typical COBOL statement. The machine-oriented instructions that would affect the same computer actions are not nearly so descriptive and consequently, require additional documentation.

Furthermore, COBOL is considerably more easy to teach to trainees than Providence's present machine-oriented language (SPS). This point is of importance if the ill-effects of personnel turnover are to be minimized.

COBOL is a language that is "understood" by virtually every major brand of computer and consequently offers the user the flexibility to choose almost any computer to implement his future needs without re-programming.

Experience has shown that with equal training in COBOL and SPS, a programmer can write 1.5 to 2 times faster in the former language. However, COBOL has one disadvantage. As designed by IBM, COBOL requires a minimum of 24K of memory -- 8K more than in the present 360-30. However, the advantages of COBOL probably warrants the additional memory which should be ordered as soon as the majority of the existing system has been converted. Conversion of

systems should precede delivery of hardware so that testing can begin as soon as the hardware arrives.

(5) Well over half the total man-hours in the Data Processing Department are spent manipulating punch cards on electro-mechanical equipment. Cards are reproduced, gang-punched, sorted and collated. These procedures are highly error-prone, extremely slow, and for the most part unnecessary. Furthermore, well over half of the total computer machine-time is devoted to reading and punching cards. The card reader is the slowest input device and the card punch the slowest output device in the system and should, therefore, be used as sparingly as possible.

Providence could eliminate the multiple card manipulations which now characterize the system by writing cards, entering a system onto disks where in turn they could be sorted, collated and updated under computer control. To avoid card punching, Providence could purchase one or two tape drives that can record output cards which must be saved (tape storage costs much less than disk storage and is less bulky) and eliminates the huge stack of card boxes.

5. Recommendations

a) Organization of Data Processing

We recommend that the data processing unit be removed from the Finance Department and be made a separate department operating directly under the Mayor.

b) Systems Planning and Programming

We recommend that:

(1) The data processing unit contain two sections; an operations section and a systems planning and programming section.

(2) The head of the systems planning and programming section be the chief systems analyst of the City and that he and part of his staff devote themselves entirely to system planning, as apart from the everyday operational concerns of data processing.

(3) That the systems planning group fulfill the following functions:

(a) Better systematization of existing computer programs to increase the efficiency of hardware utilization;

(b) approval, systems analysis and cost estimating on all proposed new computer applications;

(c) establishment of a multi-year plan to schedule the expansion of data processing services;

(d) centralized supervision of all data forms used in the City and approval of all new data forms;

(e) continuing analysis of data collection and data flow to pinpoint overlap, inefficiencies and possible increase of efficiency through use of data processing;

(f) coordination with the Mayor and city planners to insure that the data system is responsive to central managerial and planning requirements.

c) Financing Data Processing

We recommend that:

(1) The Data Processing Department be placed on a revolving fund budget whereby departments pay into the fund according to the data processing services which they receive;[57]

(2) Expenditures for data processing be roughly doubled over the next five-year period as follows;[58]

1967-68	1968-69	1969-70	1970-71	1971-72
$320,000	$360,000	$410,000	$470,000	$540,000

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57 User charges are best estimated on the basis of cost for programming (or systems help) and machine processing. To proportionately divide the costs of other data processing service is usually not worth the expenditure of time to keep the records.

58 This estimate assumes the following:

(a) an initial doubling of the programming and systems staff and an initial 30 per cent to 40 per cent increase in the pay scale;
(b) an eventual enlargement of the systems and programming staff to at least four times its present size to achieve a rough parity between hardware and software expenditures;
(c) a very gradual increase in hardware costs -- some additional memory core, a scanner and perhaps some tape drives to cheaply eliminate multiple-card manipulation;
(d) a general upward salary trend in data processing of at least ten per cent per annum;
(e) a 20 per cent expansion in operating and keypunch personnel.

c) Plan for Data Processing Development

The recommendations contained herein are a logical extension of the basic approach we have adopted -- namely that a data bank should encompass the operational data processing files and develop along with them. Thus, our proposed plan for achieving data bank capability emphasizes the overall development of data processing with special emphasis on making operational data useful to planners. This plan, though stretching over a minimum period of two years, requires a fairly limited expenditure for a data bank per se but promises a high degree of data comprehensiveness and flexibility.

We therefore recommend that:

(1) Providence take the following immediate steps with respect to personnel and technical efficiency:

(a) Hire at least two experienced systems analysts in approximately the $9,000 salary range, and at least two experienced programmers in the $7,000 to $9,000 salary range;

(b) pending the creation of an experienced staff, retain data processing consultants to provide systems and programming help until such time as the staff can assume full responsibility;

(c) institute an IBM-packaged operating system which should quickly provide considerable help to the City in increasing efficiency, eliminating error-prone manual operations and laying the groundwork for COBOL which must be used in the context of a system.

(2) That Providence immediately begin systems analysis on the two operational systems which will provide the bulk of the data bank, e.g., the new housing inspection applications and the proposed PAS school census.[59] Even though some systems work has been done on these applications, it will probably require at least four months of additional systems work to complete both, and an additional four to six months of programming time. Computer output from these programs should not be expected much before late 1968.

(3) That Providence undertake the following steps to achieve data bank capability:

(a) That systems work begin immediately on:

i. Computerization of the manual geographic cross-index now being prepared;

ii. definition of a procedure for selecting data from various operational files and arranging it in a common geographic format;

iii. definition of geographic levels not presently included in the cross-index at which data summarization would be of value, e.g., school district.

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59 Once these applications are systematized and computerized, Providence will have an information potential far superior to that of most other cities. We recommend the appropriation of the money necessary for triennial school census enumeration (perhaps underestimated at $75,000 by PAS) but suggest that outside funding might be available to defray part of this cost.

(b) That Providence contract immediately with PMS to implement the data bank system under the joint review of the City Plan and Data Processing Departments. (See detailed explanation at end of recommendations.)

(4) That with regard to geographic cross-indexing:

(a) The City consider our observations in Section 3;

(b) the City consider the use of grid coordinates to define geographic levels other than those already included in the cross-index thereby providing the capability of summarizing data at levels not included on the systems input;

(c) the City cross-index geographic locations to map locations on map sections of Providence,[60] so that data from any operational file or from any group of operational files can be graphically presented by the present hardware and printer. This mapping systems can be built into the data bank system as an alternative output format.

(5) If time is available to devote effort to projects other than those outlined above, that Providence starting in early 1968 undertake the systems and programming work (probably of four to five months duration) necessary to computerize the traffic accident analysis of the Traffic Engineer and the building trend analysis for Building Inspections (see Section 3). The Traffic Engineering Application should be used as a vehicle for designing a street section and intersection code, relatable

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60 The map system we recommend does not require a grid coordinate system. It simply utilizes letter symbols to portray data in either a lot or block. It is simple but effective and can be used with current hardware and printing equipment. It requires only that a print position of a map be cross-indexed to geographic locations. However, grid coordinates would be useful if geographic levels other than those already cross-indexed are to be used as tabulation levels.

if possible to the geographical cross-index.

(6) That throughout the period 1967-69, at least one systems man and one programmer be devoted full-time to changes in existing fiscal systems.[61] Starting in mid-1968 systems work should start on computerizing the Capital Improvement Budget and changing the operational budget to better reflect activities and interrelating budgetary data with state and Federal aid data. This systems work should extend over into early 1969 and programming should begin at that time in anticipation of use in the following fiscal year.

Time Estimates

We estimate:

(1) That by mid-1969 Providence should have a substantial amount of computerized operational data of planning significance and a capability for selecting data from various operational files, arranging it in a common geographic format and presenting it, i.e., data bank capability;

(2) that by mid-1970 Providence should have the capability of relating fiscal and funding data to planning objectives.

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[61] Wherever possible, existing systems should be rewritten in COBOL.

Cost Estimates

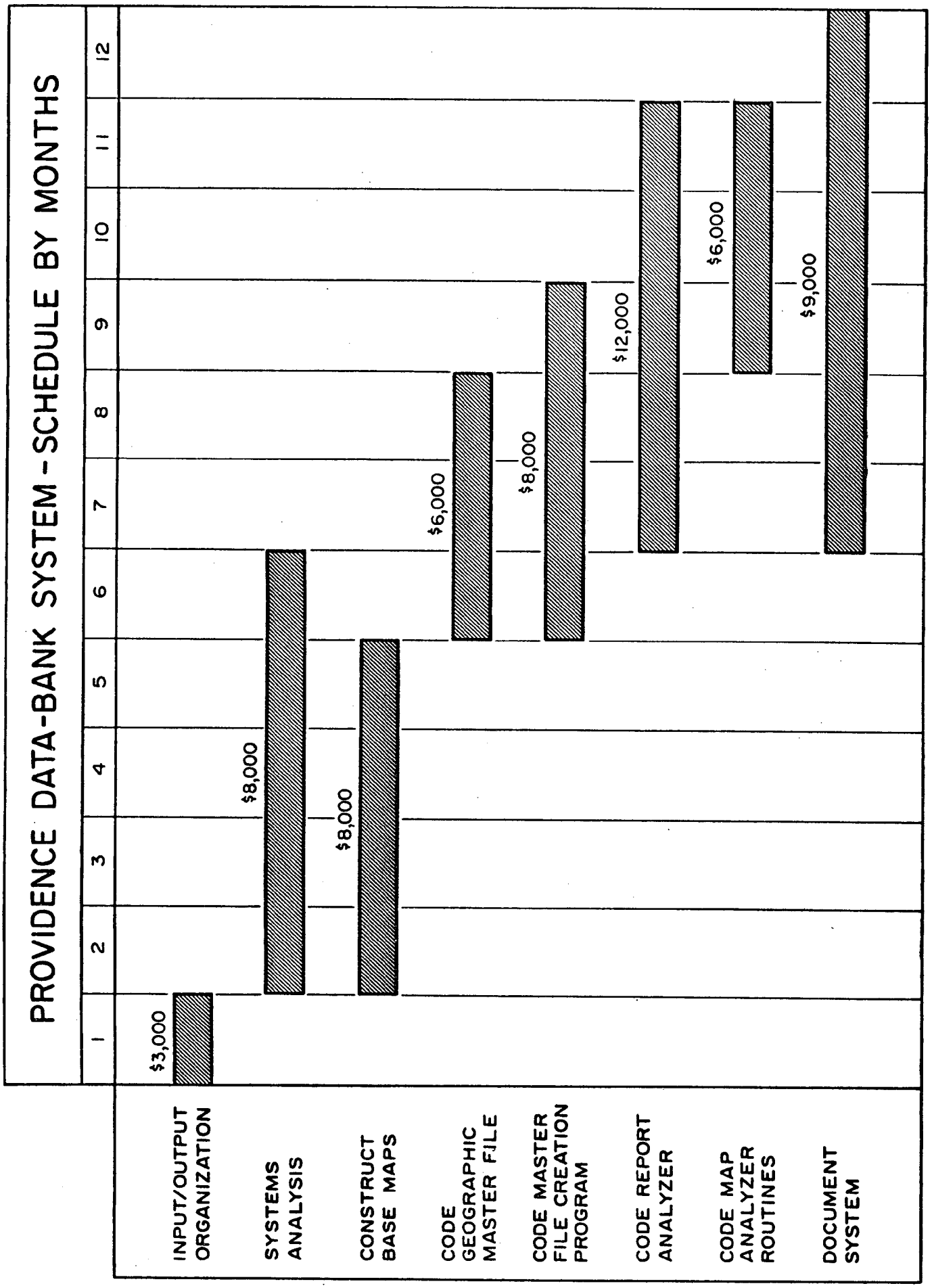
We estimate:

(1) That Providence will have to increase its general data processing expenditures by the amounts stated in the preceding sections;

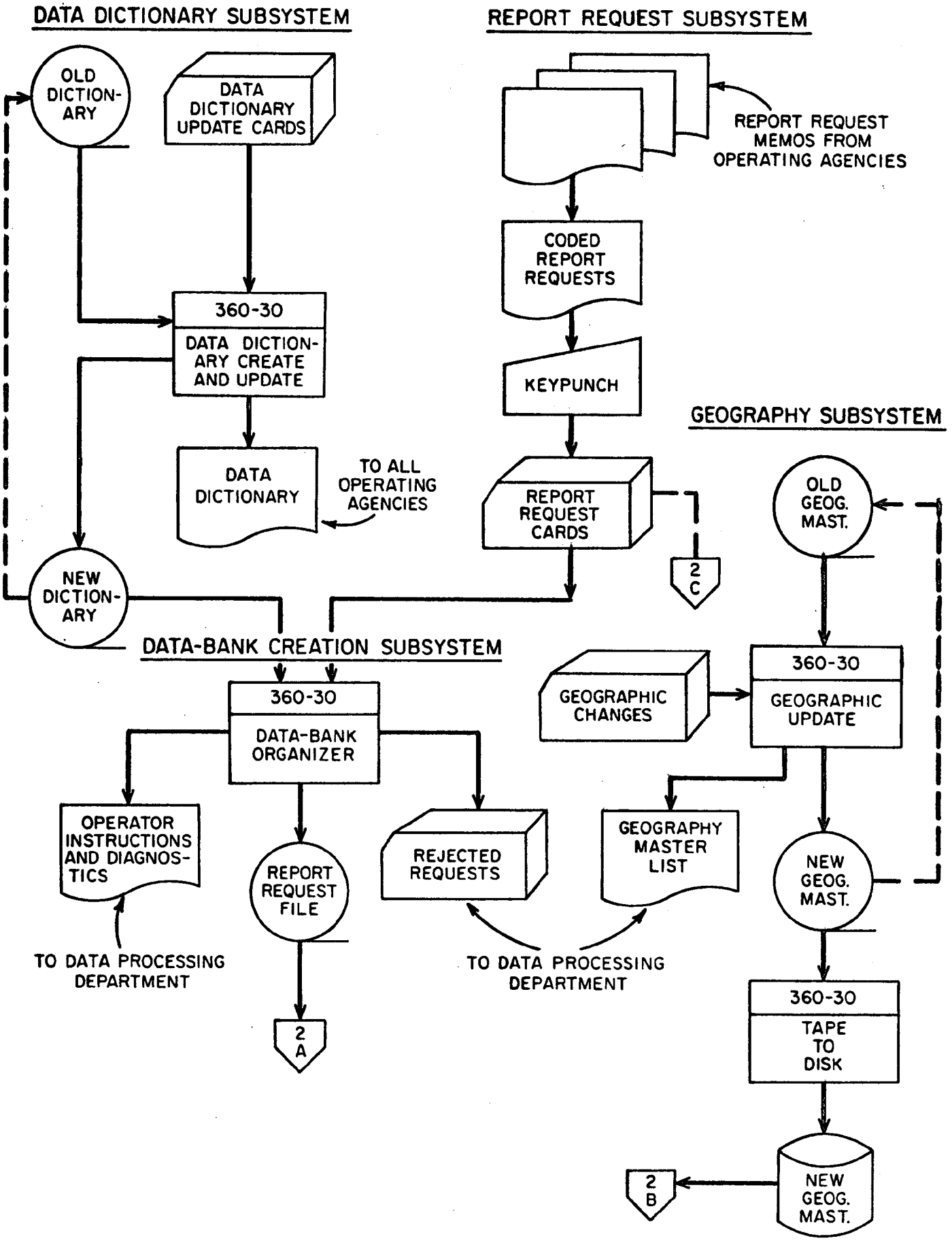
(2) that the cost of implementing the data bank system will be $60,000 plus expenses for travel and computer time. However, if the computer in Providence is used to test the system as it develops and a regular testing and scheduling procedure is established, programs and data can be mailed between New York and Providence thereby minimizing expenses.

WORK PLAN SHOWING RECOMMENDED INTEGRATION OF PROVIDENCE/PMS EFFORT

City Plan	PMS	Programming Group	Systems Group	Months
Data Bank Input/ Output Organization		Hire two Programmers @ $8,000/year	Hire two Analysts @ $9,000/year	1
	Data Bank Systems Analysis and Map Preparation	Training in Basic Systems COBOL, RPG Disk Systems	Systems Consolidation of Existing Programs	2 3
			Systems Design of PAS and Housing	4 5
Review	Data Bank Program Coding Checkout and Documentation		Layout of Input/Output Forms for PAS & Housing	6 7
			Review of Data Bank	8
Review		Testing Consolidated Systems	Compilation of Data Dictionary	9 10
Review		Parallel Run		11
	Final Data Bank Documentation and Training	Review of Data Bank		12
		Programming of PAS and Housing Systems	Design of New Systems	13 14 15 16
		Testing of PAS and Housing Systems		17 18

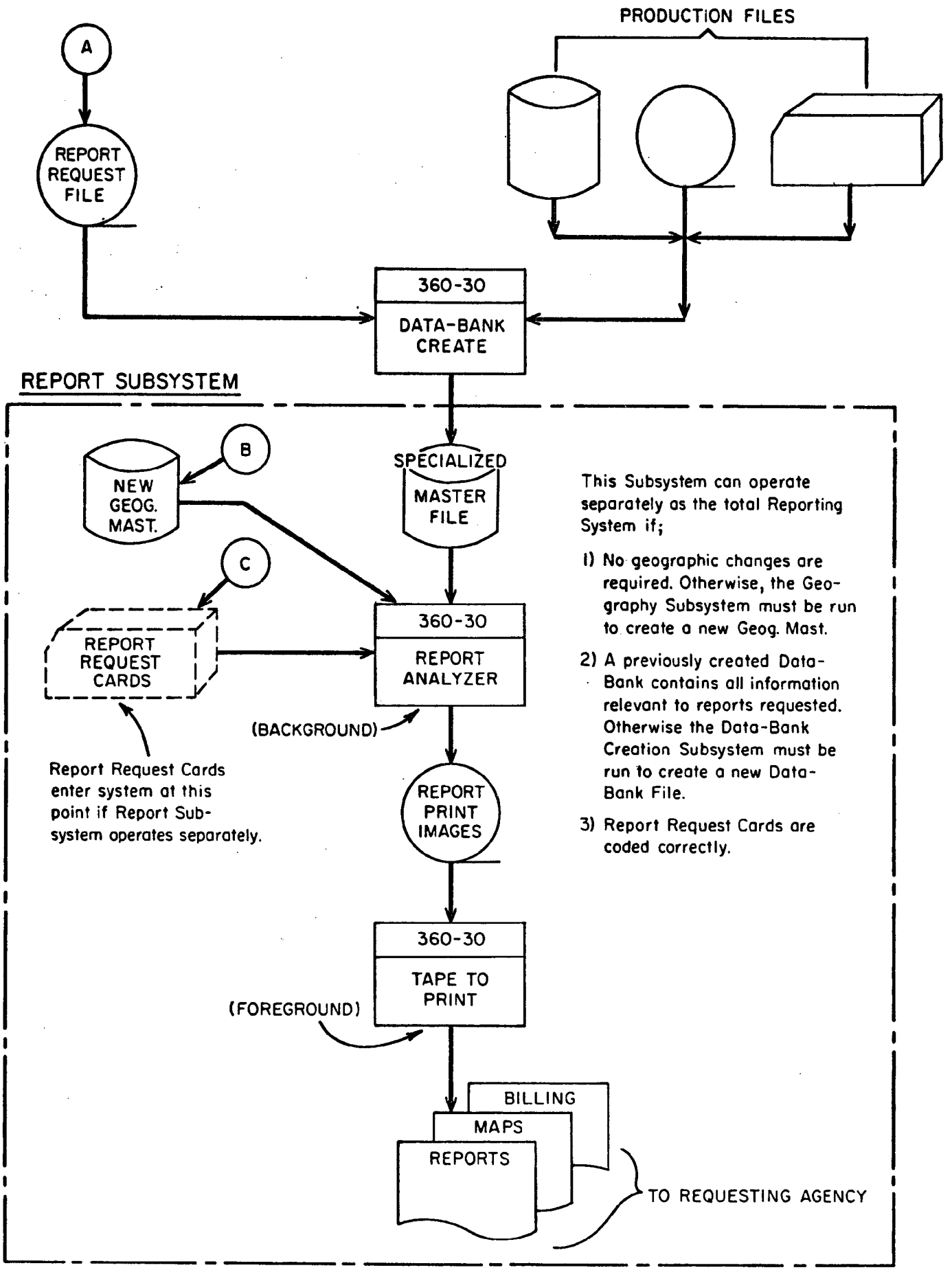

PROVIDENCE DATA-BANK SYSTEM - SCHEDULE BY MONTHS
1
2
3
4
5
6
7
8
9
10
11
12
INPUT/OUTPUT ORGANIZATION
$3,000
SYSTEMS ANALYSIS
$8,000
CONSTRUCT BASE MAPS
$8,000
CODE GEOGRAPHIC MASTER FILE
$6,000
CODE MASTER FILE CREATION PROGRAM
$8,000
CODE REPORT ANALYZER
$12,000
CODE MAP ANALYZER ROUTINES
$6,000
DOCUMENT SYSTEM
$9,000

PROVIDENCE DATA-BANK SYSTEM



PART II OF REPORT TO PROVIDENCE

An Appraisal of the Political, Fiscal and Administrative Aspects of Program Planning in Providence


PRODUCTION FILES
A
REPORT REQUEST FILE
360-30
DATA-BANK CREATE
REPORT SUBSYSTEM
B
NEW GEOG. MAST.
SPECIALIZED MASTER FILE
C
REPORT REQUEST CARDS
360-30
REPORT ANALYZER
(BACKGROUND)
Report Request Cards enter system at this point if Report Subsystem operates separately.
REPORT PRINT IMAGES
360-30
TAPE TO PRINT
(FOREGROUND)
BILLING
MAPS
REPORTS
TO REQUESTING AGENCY
This Subsystem can operate separately as the total Reporting System if;
1) No geographic changes are required. Otherwise, the Geography Subsystem must be run to create a new Geog. Mast.
2) A previously created Data-Bank contains all information relevant to reports requested. Otherwise the Data-Bank Creation Subsystem must be run to create a new Data-Bank File.
3) Report Request Cards are coded correctly.

INTRODUCTION TO PART II

In the following analysis nine evaluative criteria are used. These criteria are arranged in three sections as follows:

1. Relevance of the Capital Improvement Programs and Master Planning to Emergency Renewal Needs and the Problems of the Mayor.

Criteria applied:

The existing plans should generally reflect the objectives of the Mayor;

Planning, both functional and fiscal, should be related to comprehensive renewal purposes, both physical and social.

2. Adequacy of Administrative Instrumentalities.

Criteria applied:

Instrumentalities should exist for the presentation of budgetary and planning data to the Mayor in a form which permits him to measure the fiscal and programmatic impact of policy alternatives.

Administrative structures and procedures should provide for the gathering of all relevant (but no more than needed) information required for decision-making by the Mayor and should

provide for a high level of communication between the Mayor and his major line officers;

A system should exist for evaluation of performance against goals.

3. Fiscal Planning and Administration

Criteria applied:

The fiscal system should permit the consideration in an interrelated form of revenues and expenditures over time;

The fiscal system should be sufficiently flexible so that adjustments can be made as changes occur;

There should be a method of reflecting in a coherent format the total expenditures in major program areas;

A system should exist for coordinating activities affecting fiscal plans.

PART II

1. Relevance of the Capital Improvement Programs and Master Planning to Emergency Renewal Needs and the Problems of the Mayor.

The planning processes of Providence are fairly similar to those found in other American cities, differing only in matters of detail rather than in substance. Providence has perhaps been more active than many other cities in matters of master planning and renewal planning. Within a period of only five or six years Providence has produced a master school plan, a master recreation plan, a new zoning system, a community renewal program, a comprehensive GNRP proposal covering much of the central city, a circulation master plan, and a downtown master plan. Despite these many achievements there has been considerable concern on the part of top City officials that the planning process was not sufficiently tied to the operational realities of City government, particularly the complexities of urban renewal.

The Capital Improvement Program (C. I. P.) of the City has been a particular disappointment to virtually all the officials who have been involved with it. The reasons for this dissatisfaction have been diverse, including the following:

(i) Departmental officials, with one or two exceptions, have often felt that they had no real role in the programming process and that the City Plan staff and the Finance Department made up the C. I. P. on

the basis of existing master plans and Federal funding strategy.[62] Moreover, department heads were overwhelmed by the degree of detail required in the C.I.P. forms circulated by City Plan, complaining that the form was not really applicable to certain types of capital projects.

(ii) City Plan was itself frustrated by a lack of cooperation at the departmental level and also at the lack of policy guidance from top officials in formulating master plans. In short, City Plan received little backup data at the operational level of government and little policy guidance from the top level of government.

(iii) The Administration, for its part, has regarded master planning and the C.I.P. as more or less alien procedures of little help to the Mayor and his major problem, which is the renewal program and its financing. Attention is paid to immediate capital expenditures and bonding problems, but the existing fiscal and functional plans are lightly regarded except as they relate to urban renewal funding or immediate public needs. This divorce of planning from political responsibility (which is found in many cities) has badly reduced the current usefulness of planning, without reducing its importance and need to the City.

One major reason why the fiscal and functional planning of the City has become so irrelevant to the needs of the Mayor is that

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62 Actually, in recent years C.I.P. has, on occasion, simply inserted data from its own master plans, not only because they had little alternative but because the City's Federal funding strategy was tied to these plans.

planning has not been responsive to the emerging renewal demands for multi-functional treatment of designated geographic areas.[63] There are, in fact, no existing instrumentalities for such renewal planning.[64] Thus, the Mayor has had to approach the renewal of the GNRP area (part of which is also the proposed Model Cities area) with only a few general objectives and a fiscal policy based upon credits to be generated from implementation of school and recreational plans which may not be consistent with later renewal planning.

A more complete description of this situation follows:

Schools

The Providence Master Plan for Public Schools is a conscientious, well-constructed piece of work conceived with little policy guidance. Unable to obtain policy guidance from either the Mayor or School Superintendent[65], the master plan simply could not

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63 Master planning, like most all phases of city government, tends somewhat towards functional fragmentation. What's true of master planning is also true of city data systems which are also quite unsuited to the demands of renewal because of their narrow departmental orientation. This aspect of the Providence data system is treated in Part I of this report.

64 The new reorganization plan combines the master planners from City Plan with the project planners from Redevelopment but doesn't necessarily promote renewal planning. It would appear, however, to be a step in the right direction.

65 Unfortunately, the school plan was drawn up at a time when the Mayor and School Superintendent were new in their posts. The situation is further clouded by the division of power between these officials (and the School Board) in matters of school construction. The planners did have some help from an assistant superintendent of the school department, but mostly in matters of detail rather than in policy.

depart very greatly from past policy. Certain new factors were taken into account (e.g., pre-kindergarten, community schools, departmentalization of upper grades, etc.), but overall the plan was a projection of the mildly consolidationist, low-spending trend[66] which has characterized school construction in Providence for a number of years.

Renewal factors were considered in matters of funding and population projection but were clearly not considered with the same high priority accorded renewal matters by the Administration. Neither is the school plan embraced by the School Superintendent, who apparently regards it as a reflection of prior educational policies to which he does not necessarily adhere. Thus, there has not been a real acceptance of the school plan by policy-making officials.

These reservations were not strongly expressed when last year's C.I.P. was adopted. The City Plan Department, which had put together a GNRP proposal to maximize renewal credits in the inner city area of Providence, based its whole funding strategy on the implementation of the School and Recreation Master Plans.

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66 The term "low-spending" is used in relation to the overall condition of the school physical plant rather than as a comparison with other cities.

Thus, with little objection from the School Department, the master school plan proposals were placed in the C.I.P., thus giving the plan a certain sanction.

The policy implications of the Master Plan for Public Schools were great since it virtually ruled out any major overhaul of the aging school plant, any major consolidation of facilities and any steps to end de facto segregation. Among the priority features listed in the plan were the construction of new K-3 facilities and the enlargement of predominantly Negro schools, both of which commitments had important policy implications. On the omission side, no consideration was given to making the Hanley Center an educational park with a model lower grade system, although the location and scope of the project would, at the very least, suggest the possibility.

The Master Plan for Public Schools[67] left many other large unanswered questions, among them were:

> How much longer can Providence defer a major school building program by using renovation?
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> What is the effect of the school plan on the number of classrooms in the short-run and long-run? Does it enlarge or reduce capacity? If it

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67 It should be noted that some of the unanswered questions are in the particular province of the School officials and can only be reflected in master plans to the extent they are articulated.

enlarges the physical plant, what are the implications for the operating budget in terms of increased cost?

Can Providence assume that the public will permit the dropping of pre-kindergarten classes, community schools or any other educational program if the Federal Government ceases to fund them at the same level? In short, won't these have to be accepted as fixtures?

Questions of this importance will eventually have to answered, and, in fact, the School Superintendent, by proposing a plan to minimize de facto segregation, has started to raise some policy questions which directly affect the school building program. His desire to replace a badly deteriorated elementary school in the Annex area (a non-renewal area) raised questions as to educational priorities versus Federal funding priorities. However, the problem is that the Mayor and School Superintendent have now started to make changes in the Master Plan for Public Schools, which, in lieu of agreed upon objectives, are necessarily ad hoc changes.

The effect of these changes is reflected by the changes in the current C.I.P. The enlargements to four new schools in the central area of the city (Flynn, Fogarty, Joslin, Camden) are eliminated.

The new Mt. Pleasant School, scheduled to begin after the additions to Camden and Joslin, was dropped. The junior and senior high modernization was dropped. The current C.I.P. contains two open spaces for construction of new elementary schools (possibly Almy and Merino) and moves back all other school construction, apparently in expectation that a new school study will produce recommendations. In short, the City is not adhering to the master school plan and has nothing to take its place. A policy void exists in which construction is likely to be an unhappy compromise between educational priorities and the need to generate Federal funds for renewal.

Recreation

The Recreation Master Plan, which was produced almost simultaneously with the School Master Plan, and closely coordinated therewith, was developed along traditional lines and without much policy guidance. Top recreational officials were consulted and made some contributions, but appeared to feel that the plan was essentially out of their hands. They generally approved the plan, but were skeptical of certain recommendations which they felt revealed ignorance of neighborhood conditions.[68]

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68 Swimming pools were recommended for locations where ethnic and racial tensions were likely to be a factor. In fact, one pool proposed under last year's C.I.P. had to be postponed because of local opposition. Three pools which were specifically named in last year's C.I.P. were not mentioned in this year's C.I.P. Instead, a general heading "Neighborhood Swimming Pools" was used.

The Administration was consulted about the plan and made some contributions. However, the Administration was new and there was no great attempt to influence the long-range aspects of the plan. Primary interest centered on that part of the plan calling for the construction of a great number of "tot lots" throughout the City. The C.I.P. and the capital expenditures for recreation reflect this interest. There is, however, no great respect felt for the rest of the plan, even though it has continued to be reflected in the C.I.P. and is related to renewal funding. Thus, while the recreation master plan exists on paper as a factor in the City's fiscal planning, its implementation is questionable.

Urban Renewal

The renewal history of Providence has been marked by a singular lack of direction, despite two major studies conducted by the City within the last fifteen years.[69] A number of urban renewal projects in Providence have been started as a response to some political crisis which first stimulated a building program and then a quest for

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69 A Central Cities Report came out in the early 1950's and was followed in the early renewal efforts of Providence, Lippitt Hill being the prime example. A C.R.P. prepared in the early 1960's has been largely ignored in renewal planning.

renewal funds.[70] The results of these renewal projects have generally been quite good, but because of this rather back-handed approach to funding, Providence, in past years, has not received the full advantage of Federal aid, a classic example being the Mashapaug Pond Industrial Project which did not attract matching Federal funds and badly depleted redevelopment bond monies.[71] The Mashapaug Pond project was also illustrative of the strong business orientation of earlier redevelopment.

Benefiting from previous experience, the current Administration has emphasized residential projects and has attempted to extract maximum amounts of Federal renewal funds. There has, however, been a tendency to concentrate on obtaining money and to place less emphasis on planning its expenditure, a not uncommon occurence since the problems of Federal funding have become so

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70 For example, the Lippitt Hill project was stopped at mid-point when it became apparent that business displacement and job loss were assuming large proportions and causing an uproar. The City quickly initiated the West River Industrial Project. The Weybossett Hill and the Railroad Relocation projects were devised to finance the Downtown Master Plan, a product of business pressures. The Classical-Central project was stimulated by a bad school fire and consequent outcry, although mentioned in a different form in an early renewal study.

71 The City Administration made a decision that speed was of the essence in getting this project started and, therefore, elected to forego the lengthy process required by Federal urban renewal law.

complex. Certain very general policy guides exist[72] but they are subordinated to a basic fiscal strategy -- avoid redevelopment undertakings requiring cash contributions until such time as city residents can see some tangible results.[73] Thus, the seven projects in the GNRP area, the City's major renewal target, are scheduled and even territorially defined in terms of non-cash credits[74] available to cover the City's contribution, rather than the need for renewal.[75]

In order to keep its project costs within the pre-determined limits, the City has chosen to emphasize rehabilitation because of its assumed cheapness and because it is in large part a reimbursable item. Since the City has little experience with rehabilitation costs (not to mention the budgetary implications of social rehabilitation) and no solid basis for pre-determining which

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72 The policy is referred to in such general terms as "people-oriented," "rehabilitation-oriented," or as directed toward the prevention of fringe deterioration.

73 Providence voters who have a good record for supporting bond issues almost rejected the last redevelopment issue.

74 These planned non-cash credits derive to a large extent from the School and Recreation Master Plans.

75 Upper South Providence would, in terms of need, be the top priority project, but ranks low in priority. In public hearings the City Administration explained its decision to use a priority based on funding.

percentage of structures are suitable for rehabilitation, the figures in the C.I.P. are highly questionable.[76] They represent what the City thinks it can spend without dipping into its bond money (which is estimated as sufficient to take care of current projects).[77] Thus, the City has no clear objectives of what it wishes to achieve through renewal, only a tenuous funding strategy[78] which rests upon two master plans of dubious durability and a set of cost estimates which are of highly questionable validity.

2. Adequacy of Administrative Instrumentalities

A Mayor does not need elaborate machinery to develop broad objectives,[79] but some instrumentalities must exist for supplying him the data which he needs to select the action alternatives that will best fulfill the needs of the City. Obviously, this

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76 In one project which costs were estimated at slightly more than $5 million in the C.I.P., the Project Director estimated expenditures at more than $8 million because of high acquisition costs. Yet, the lower figure was used by City Plan in the C.I.P. and in the City's funding strategy.

77 On one renewal project the original cost estimate was arrived at by taking the non-cash credits and multiplying by four, a Federal share of 75 per cent being assumed. This may suffice for grantsmanship, but not fiscal planning.

78 The original GNRP proposal was designed to maximize non-cash credits and was a very worthwhile project of great value to the City. It was not, however, a substitute for renewal planning.

79 It would appear that the enunciated renewal policies for Providence are a little too broad.

entails the existence of needs data and some system for measuring whether various programs are actually serving these needs.

In addition, the Mayor must determine that selected action programs are being administered efficiently, which requires some instrumentality for measuring performance and the intra-departmental distribution of resources.

In Providence no instrumentalities exist for presenting policy alternatives and decision-making data to the Mayor, nor is there any management information going to the Mayor. It seldom, if ever, occurs that the major issues confronting the City are clearly formulated and presented to the Mayor in a fiscal context. The reports going to the Mayor consist mainly of standard budget requests and annual reports of dubious administrative or planning value.

The possible sources of planning and management data for the Mayor of Providence are the budget, reports from the heads of line departments, reports of planners and researchers and reports from his own staff. The value of these reports is, of course, dependent upon the caliber of the personnel who prepare them.

a) The Budget

(i) Capital Budgeting -- The C.I.P. process in Providence is handicapped by lack of any firm data foundation. The forms which are circulated to the departments for the provision of back-up material are seldom filled in, and City Plan has had difficulty

filling in the details by interviews. The fact is that the present forms are not applicable to many capital expenditures and that they require a level of sophistication and expertise at the departmental level which is not commonly found in Providence. Thus, when the C.I.P. comes before the Planning Commission and the Mayor, it does not have a very firm basis and little supporting data on which to evaluate it. It is really just a frail outline.

Because of the way it is compiled, the C.I.P. has notable defects: Cost figures are often dubious[80];

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80 Public Works, for example, has two items in the most recent C.I.P. where there are unexplained variations of more than 300 per cent from the costs attributed to these same items in the last C.I.P. (construction of storm sewers - North Main Street, Woonasquatucket River Walls). On storm sewers (a big item in the renewal program) the margin of error on the costs has been placed at 50 per cent by some City engineers.

It is clear that accurate costs may not be obtained until specifications are drawn up prior to construction, but under the current C.I.P., there is no means of distinguishing between hard and soft estimates or determining how costs were derived. In some departments this may entail the necessity of outside engineering help to straighten out costs and to help assign functional priorities.

important items are omitted[81]; no criteria exists for inclusion or exclusion of items paid out of current revenues[82]; bonding

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81 The present C.I.P. system does not pick up omissions of major capital expenditures, inasmuch as it is not tailored to individual departments and does not require that department heads carefully check all possible areas of major capital expenditures. For example, in the current C.I.P., Public Works has omitted two of its major capital expenditures -- construction of new sanitary sewers and construction and reconstruction of streets (street resurfacing by the City work force is included). Since both these items are covered by bond issues, it clearly leaves a gap in the City's financial picture when they are omitted.

There is considerable question as to whether any standardized C.I.P. form will yield satisfactory data when the handful of departments strongly affected (Redevelopment, Public Works, Water Supply, Schools, Recreation) have such great differences in the types of projects undertaken and the caliber of their personnel.

82 A portion of the C.I.P. is funded out of current revenues. Yet, there appears to be no criteria to determine which capital expenditures should appear in both the C.I.P. and the operating budget. For example, the recreation section of the C.I.P. has a provision called "Park Improvement" which is a $35,000 annual item for repairing and replacing vandalized or deteriorated equipment, but most other maintenance-type activities are excluded from the C.I.P. Virtually all the capital expenditures listed for Traffic Engineering in the C.I.P. are minor items payable out of current revenues, and less in value, for example, than certain large vehicles purchased by Public Works which are not included in the C.I.P. However, the large vehicles purchased by the Fire Department are included in the C.I.P. If the distinguishing feature is supposed to be the life of the project, this has not been made clear.

The reason for excluding Public Works Department equipment from the C.I.P. seems to be that spending money on equipment purchased through a revolving fund is like spending "found" money. Actually, the Public Works revolving fund does not have a very sound depreciation basis and has accumulated some very large surpluses in past years. Except for relatively light supervision by the Board of Contract and Supply, Public Works escapes scrutiny of its vehicle expenditures in both the capital and operating budgets.

references are not very meaningful[83]; funding sources are described in such general terms that they are not too helpful; and data on future projects is almost frivolous.[84] Clearly, the C.I.P., in its present form, leaves much to be desired.

(ii) Operating Budget -- The operating budget, like the C.I.P., can be a vital instrument both in determining policy and shaping policy. The operating budget of Providence is a line-item budget compiled by sending each agency a budget form reflecting its previous budget allowances for various items and leaving space for the agency to fill in its needs for the coming budget year. This is a more or less mechanical process, and tends to focus attention on marginal increments.

Except for the performance budget in Public Works, no activity budget exists in Providence, and thus, there is no methodology for measuring performance or for making such measurements part of the budget process. Moreover, the following basics are lacking:

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83 Bond monies are necessarily sought at a time and in amounts determined by the estimated tolerance of the electorate. However, references to future bonding in the C.I.P. bear no relation to this basic factor, there being no overall bonding or financial strategy for the City. In fact, even where the C.I.P. states that bond money (or bond-anticipation money) exists to finance a project, sometimes the capital funds are not sufficient for this purpose.

84 Illustrative of this unconcern about the future is the fact that Providence projects a drop of almost $37 million in capital spending between 1967 and 1970.

Departmental activities have not been analyzed and defined.[85]

Given the lack of activity definition, it follows that:

Activity goals have not been set;[86]

Quantitative and qualitative measures of performance have not been assigned;[87]

Budgetary justification of activities (the whole activity, not just increases in particular cost items) has not been required.

The lack of an activity budget imposes another handicap on the Mayor in that it is quite difficult to measure perform-

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85 One exception is Public Works which has a cost accounting system established by Public Administration Service in the early 1950's. The system breaks out all the varied and detailed activities in the department and assigns quantitative units to each activity. Various forms have been designed to record this data, and, in fact, Public Works spends considerable clerical time in operating the system. It suffers from the fact that data (much of it recorded on the job by workmen) is not accurate and that it has seldom been used effectively. However ineffective the system has been from a managerial point of view, it has fairly well-defined activities.

86 Departments are seldom asked about what they expect to achieve and measure against these goals. Such comparisons as are made (usually in annual reports) stress comparisons with past years or months.

87 A quantitative measure of Minimum Housing inspections might be cost per inspection (i.e., number of inspections obtained for X investment); a qualitative measure might be improvement (or lack thereof) in housing conditions in inspected areas.

ance with a line-item budget. Moreover, if one assumes that it makes little sense to project capital expenditures over time without similarly projecting operational costs over the same period,[88] an activity budget is probably preferable to a line-item budget because it groups expense items in categories which are more useful for policy-making and managerial control.[89]

The traditional budgetary process, both capital and operating, simply has not provided an adequate instrument of executive control to the Mayor.

b) Communication with Department Heads

The Mayor receives no systematic flow of information from departments to assist him in planning, decision-making or administration. Budgetary data is skimpy, and the annual reports are bulky compilations of miscellaneous departmental statistics. The various City departments report to each other, to State agencies, to Federal agencies, to private agencies and occasionally to citizens, but very seldom to the Mayor (see Part I of our report for more details). The City data system serves no central planning or managerial purpose.

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88 The main reason for projecting an operating budget over time is that it becomes a policy tool, not just a means for finding budget items to cut back.

89 One can make policy with respect to old-age recreational programs but not with respect to shuffleboard equipment.

This lack of institutionalized communication has not been compensated for by informal contact (nor could it be in full). Thus, there is a fairly serious communications problem between the Mayor and many department heads, which has caused some degree of alienation.

c) Researchers and Planners

Prior to the recent reorganization, the planning apparatus of the City was essentially tri-partite with City Plan handling master planning and the general renewal strategy; Redevelopment handling project planning, and Progress for Providence handling social planning.[90] However, City Plan was accorded a dominant role in the planning process.[91]

No system existed (or as yet exists under the new organization) to provide decision-making data to the Mayor from any of these agencies.[92] Thus, information from these agencies went

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90 This is to some extent a goal, rather than a statement of fact, since Progress for Providence has had to devote most of its energies to getting a poverty program underway.

91 The emerging importance of the Federally-supported renewal programs have gradually pushed Progress for Providence and the Redevelopment Agency to the fore at the expense of City Plan. The recently created Department of Planning and Urban Development absorbs City Plan, thereby formalizing its changed role.

92 Progress for Providence and Redevelopment have existed outside the formal City structure. But the reorganization and the demands of comprehensive renewal are bringing both more firmly into the City orbit.

to the Mayor in a sporadic form, often at his request on a problem of immediate urgency. The two principal sources of information for the Mayor were the research divisions in each of these agencies (particularly of City Plan[93]) and certain individuals in these agencies who were held in high esteem.

An illustration of this technique of informal reporting by key officials had been the submission of Model Cities ideas from certain men within City Plan, Redevelopment and Progress for Providence. These proposals were not presented as clear policy alternatives nor were they designed to show fiscal alternatives.[94] Moreover, they came to the Mayor in unstructured form without benefit of staff analysis. They nonetheless partially illustrate the type of reports which could flow to the Mayor on an institutionalized basis but which are not presently received.

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93 Even prior to the reorganization, the internal structure of City Plan had begun to reflect a split between the more traditional concerns of the agency and the emerging demands imposed by Federal funding complexities. A research unit within City Plan became deeply involved in problems of Federal funding, and since this was responsive to the Mayor's needs, this unit was closer to the Mayor's office than the more traditionlist segment of City Plan. This split is formalized in the reorganization scheme which will place the research unit in a different division than the planning staff.

94 Generally, these proposals dealt with approach -- one stressing increase in the level of program expenditure in the Model Cities area, one stressing various programs and how local institutions might be involved and one stressing a rehabilitation approach, both social and physical.

d) The Mayor's Staff

The lack of contact between the Mayor and his top line officials could be offset somewhat if he had a large enough staff to broaden his range of advice and effect wide liaison. As it is, the Mayor has a small staff overburdened with the everyday political details of city government and only a few other non-staff employees upon whom he can rely for advice. This relative introversion is unfortunate because the City Government exhibits a substantial degree of parochialism which is impeding the City in matters of improving personnel[95] and in developing a broader vision.

3. Fiscal Planning and Administration

a) Fiscal Impact of Current Decisions Over Time

Under current procedures in Providence (and practically all other cities) the capital budget is projected, but the operating budget and revenues are not projected. Actually, the current C.I.P. form does call for an estimate of the impact of capital expenditures on the operating budget, but such an estimate is seldom made for the following reasons:

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95 By ordinance, City employees must be City residents.

(i) Most departments don't fill in that section of the form;

(ii) if such an estimate were made for projects beyond the current fiscal year, it could not be translated into budgetary reality since the operating budget is not projected over the same period as the capital budget;

(iii) there is no cost data by which to measure budgetary impact.

The handicaps imposed by the use of current budgetary practices can best be seen in relation to budgeting for schools and recreation.

Recreation

Recreational master planning centers on costs for land acquisition, landscape engineering, equipment and buildings. The operational costs for supervisory personnel and maintenance may or may not be included, and if they are, the costs are usually not very precise.[96] In Providence, no attempt has been made to measure the costs required to maintain various types of proposed recreational areas, although current maintenance problems are so great that they

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96 The prevailing method of estimating the cost of supervisory personnel for Providence is $1 for each $10 of capital cost, which appears to be a rather vague "rule of thumb."

raise considerable question as to whether Providence can make even a modest expansion of recreational space without a substantial increase in maintenance appropriations.[97] Unfortunately, the current budgetary system doesn't provide a very good framework for resolving this question.

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97 Administrative problems with respect to maintenance are not unique to recreation. Each year Providence appropriates great sums of money to maintain its numerous vehicles, buildings, facilities, streets, bridges, parks, recreation areas, trees, traffic equipment, and a variety of other property items. From a managerial point of view, this is one of the most significant aspects of City expenditure, since it involves a large portion of the City's work force. Yet there is no central supervision of maintenance activities, even for such key items as public buildings and vehicles.

Providence does not have a central inventory of public buildings nor a complete record of maintenance expenditures by building. There is no central administrative supervision of this large area of expenditure. Yet, Providence is possessed of an aging physical plant which places a great strain on the City in terms of maintenance and may well require much greater capital expenditure for modernization and replacement than has been anticipated.

The situation with regard to vehicles is similar. The Municipal Garage services only a portion of the City's vehicles. Public Works has its own revolving fund garage and also uses the Municipal Garage (maintaining forms for each); the Fire Department has its own garage; the Parks Department has its own garages, except for Forestry which uses the Public Works garage. The type of maintenance records vary widely from department to department and each department has control over its own sales and purchases (subject, of course, to the City contract and bidding procedure). But there is no overall administrative review of this very significant aspect of City expenditures.

Schools

Construction of a school building immediately creates a budgetary impact in terms of maintenance and custodial help (which in Providence runs over $1,000,000 per year and, next to teacher salaries, is the biggest budget item.)[98] There are, however, other budgetary factors flowing less directly from construction, such as instructional costs and support services (health, transportation, etc.).[99] These latter types of costs are more difficult to measure than the custodial costs which are, in a sense, built into the edifice.[100] Consequently, it has not been common practice in most cities to estimate such costs. Nonetheless, it appears increasingly pointless to speak of construction costs, apart from these operational costs.

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98 In some instances a new school or school addition may simply replace an old school and may actually reduce operating expenditures. In Providence, where the building problem is not one of expansion but replacement and renovation, the impact on the operating budget from school construction may be less than in other cities. However, there does not appear to have been a very serious study of whether planned construction will result in expansion.

99 The operating budget items for instructional and support items will vary for many reasons other than the impact of capital expenditures. For example, even if the present physical plant would accommodate a 4-4-4 system with departmentalization in the middle grades (a not unlikely occurrence in Providence) the increase in teacher specialization might have significant budgetary effects. Thus, in education, as well as other areas of City government, there is substantial cause for operating budget projections, other than the impact of capital spending.

100 The financial records of the Providence school system permit the segregation of many costs on a per building basis, but the process is not an easy one. This lack of usable cost data is, of course, a serious impediment to figuring future operational costs.

A logical corollary of budget projection is a revenue projection for the general and school funds. Budget projections will reflect debt service as well as the planned expenditures for City activities, and the measurement of these expenditures against anticipated revenues (which would, in Providence, be derived in large part from estimates of revenues from the basic property taxes) would fix the fiscal restraints against which to measure expenditures. While the Tax Assessor's Office seems well suited to this task, there is at present no long-range revenue projection, except certain projections made by the Redevelopment Agency on future assessed valuation of land in project areas. Since Providence has been suffering a steady squeeze on its real propertytax base from highway construction and land acquisition by tax-exempt organizations, these projections are of considerable importance.[101]

b) Need for a Fiscal Planning Framework in Which to Measure the Impact of and Adjust to Basic Changes.

Fiscal planning is a dynamic process, requiring a constant readjustment of variables. Thus, when funding changes occur,

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101 The effect of urban renewal in Providence has been to sharply increase land valuation in renewal areas by ratios of from 5 - 1 to 9 - 1. Providence has historical data in this area which may show that land value will increase. What is lacking is the applied expertise of the Tax Assessor to relate these valuations to realistic assessed values.

there is an immediate need to know how the overall fiscal plan has been affected. The problem in Providence (or elsewhere) is that the fiscal system is too static[102] to permit this readjustment. More important, there is no overall financial plan for the City.

However, there is a patent need for a fiscal planning framework within which to measure the constant changes which occur. For example, of the component elements of any large capital improvement (descriptive data,[103] funding, scheduling,[104] cost,[105] conformity-to-plans) the middle three are variables requiring a constant re-evaluation of not only the particular project, but its changed relationship to related projects and to the budgetary, bonding

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102 Illustrative of this inflexibility is the standardized C.I.P. format used in Providence and elsewhere. The usual format reflects capital projects by department and occasionally by function. Providence also lists some capital projects by renewal area, particularly the capital grants for renewal. However, the standard C.I.P. format does not adequately reflect the interrelationship between renewal activities and capital improvement programming, so that it does not provide a good vehicle for reflecting the changes brought about by the dynamism of the renewal process.

103 This includes such factors as project name, department, location, purpose, estimated life of the project, etc.

104 Capital budgets commonly indicate functional priority. In Providence, priority is reflected mainly in scheduling.

105 The included costs incurred in the operating budget, as well as the cost of the capital projects itself.

and Federal grant plans of the City.[106] Under current practices, there is no attempt to measure the impact of these changes, and, in fact, no framework in which to make such a measurement. Such changes as occur may be reflected in the annual capital budget, but no interim adjustments occur. Consequently, the Mayor never has a current view of the City's fiscal posture nor can he estimate the likely fiscal effects of his current decisions.

c) Ability to Measure Resource Allocation under Current Financial Recordkeeping System

Every urban area is now confronted with the necessity to know how much money they are spending for various programs and beyond that the need to know how much is being expended for such programs by other governmental entities and private groups. This entails some analysis of the needs to be served, how they are presently being served and how the City can best allocate its resources to do the maximum good. However, in Providence, as in most other

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106 In the course of any six-month period in Providence, or any large city, a variety of changes occur which affect fiscal planning. For example, within a recent period the City lost a large Federal credit for the Railroad Relocation project; gained large Federal credits when the City share of the Weybosset Hill project was reduced from 1/3 to 1/4; the School Superintendent installed temporary classrooms at schools scheduled for enlargement and indicated an intention to scrap that element of the Master Plan; neighborhood opposition altered the City's plans for swimming pools and the failure of the City to plan for disposal of private demolition refuse caused a reappraisal of refuse disposal facilities. This represents only a sampling of the constant flux within the City.

cities, it would be a rather difficult process to determine what the City is spending for various programs, much less to determine non-city expenditures.[107]

Municipal bookkeeping has centered on the general fund, which reflects only a part of the City's expenditure picture, albeit the most important one since tax rates are involved. However, if a Mayor wants to have a full picture of how money is being expended to meet certain needs, he cannot use the operating budget. He has to know the grand total of City expenditures, including the school fund, capital funds,[108] trust funds, etc. Moreover, he must know the level of state, Federal and even private expenditure to meet the same needs, so that he can determine the extent to which City resources are necessary. Under present procedures in Providence (and most cities) no such procedure exists, although it is becoming a quite essential policy mechanism.

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107 In education, for example, there is no current presentation of total expenditures. Presumably, educational expenditures from the various accounting funds, including the various Federal programs, could be aggregated. The problem would, however, be even more difficult if there was an attempt to develop fiscal data on an education sub-category, e.g., vocational education.

108 It might appear that this is mixing apples and oranges, particularly as regards the capital and general funds (which includes debt service items), but there are sound reasons for working out a system of this sort. It need not be a precise accounting tool since its purpose is essentially to assist policy-making.

d) Coordination in the Fiscal Area

As indicated previously, no central administrative machinery exists to oversee the implementation of capital improvements and to stay abreast of the changes which are constantly affecting fiscal strategy and program implementation. Likewise, no administrative system exists for coordinating the very vital Federal and state funding program of the City, although many people mistakenly assume that City Plan has filled this role.[109] Thus, there is no one officer in the City who is capable of describing the current position and planned strategy of the City with respect to state and Federal aid.

This lack of centralized coordination has been particularly noticeable in the lack of systematic involvement of the Finance Office in funding strategy.[110] On occasion, Federal checks have arrived in the Controller's Office for programs unknown to the Finance Office with the result that the recipient had to be traced down by making inquiries throughout the City government.

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109 The Director of Finance, perhaps best situated to assume this role, has, for a variety of reasons, played a supporting role both in regard to the C.I.P. and Federal funding.

110 Except for the Housing Authority and the Redevelopment Agency, which do their own bookkeeping, the Controller's Office handles all accounting including the Schools and Progress for Providence. However, the comprehensiveness of its state and Federal aid records is questionable because its exact service relationship to some of the quasi-independent agencies is a little unclear.

Only recently, and acting mostly on its own, has the Finance Office tried to organize its accounting procedures, so that Federal aid could be reflected in one fund instead of being located in a variety of locations. However, the Finance Office has never been made part of a coordinated system for dealing with state and Federal aid programs.

Also lacking is a coherent format for listing and categorizing state and Federal aid programs in a way which permits analysis and scheduling, not to mention coding for data processing. Providence has all the standard compilations of Federal aid programs but has never grouped them for efficient use, attempted to systematically update them, or collected appropriations information. Thus, the City has no way of knowing whether the planned amounts of Federal funding have any real relation to the amount of money made available by Congress. Clearly, a serious administrative void exists.

Conclusion

In measuring Providence, or any large city, against the criteria mentioned in our introduction, the evaluation may seem harsh, perhaps unrealistic. We have no reason to believe that Providence is greatly different from other American cities, but we see no point in confirming this by an analysis based upon traditional

criteria. Perhaps our criteria are not those that would be generally selected, but to the extent that they represent standards which Providence would like to achieve, we think the preceding analysis is an important prelude to improvement.

4. Recommendations

a) Major Recommendation

That the Mayor strengthen and unite the budgetary and planning processes, bring them more directly under his control and use them as his principal means of policy-making, policy enforcement and managerial control.

b) The Mayor's Staff

In the light of the principal recommendation that the Mayor centralize the budgetary and planning processes under his direct control, we recommend the following:

(i) That the Mayor create two staff positions -- a Special Assistant for Administration and a Special Assistant for Urban Affairs, the latter assistant dealing with those departments most intimately concerned with urban development (PUD, Progress for Providence, Schools, Human Relations Commission) and the former assistant dealing with the other City agencies.

(ii) Each staff assistant would perform the following duties with respect to departments under his supervision:

Serve as the formal communication link with the Mayor.

Assist in development of long-range policy objectives and programs.

Assist in community relations, political affairs, and Council liaison.

Oversee budgetary and financial matters.

(iii) The Special Assistant for Urban Affairs would have primary responsibility for:

Coordinating the overall planning process.

Coordinating records on State and Federal aid.

Coordination of the C.I.P. projects related to the urban renewal effort of the City.

(iv) The Special Assistant for Administration would have primary responsiblity for:

Capital projects in non-renewal areas.

Management reporting (since the bulk of the City agencies would be reporting to him, rather than the Special Assistant for Urban Affairs).

c) Planning, Programming and Resource Allocation

Public Investment Program Model

We recommend that:

(i) The planning and research staffs of the Department of Planning and Urban Development (PUD) be directed to prepare annually a six-year public investment program model as follows:

-- List the major programs of the City for which needs can be established (perhaps six or seven, such as Housing, Education, Health, Transportation, Protection of Person and Property, Recreational and Cultural Amenities, Income Generation and Support). Programs should be listed without regard to City departmental lines and regardless of whether the City provides any services in the area. The criteria for selection should be measurable public need (e.g., the existence of 10,000 sub-standard dwelling units constitutes a quantifiable public need).

-- List under each program the major sub-categories for which needs can be established (perhaps in education -- pre-kindergarten, kindergarten, elementary, secondary, special and remedial, vocational, etc.).

-- Estimate the public needs in each area as best as possible giving present data; estimate the present and planned expenditures being made to meet these needs and, insofar as it is measurable, the extent to which needs are being met.

-- Expenditures to meet various public needs should be determined not only for the City, but insofar as possible for the State and Federal Governments and private sources.

-- The City expenditures should include not only expenditures from the general fund but all City expenditures.

-- The estimated program expenditures should be projected over the same period as the C.I.P.

(ii) The public investment program model should be used to:

-- Ascertain the present level of investment in each program.

-- Evaluate program success in meeting needs.

-- Determine the best allocation of City resources based upon criteria of need.

-- Assist the Mayor in choosing and articulating his policy objectives.

(iii) This public investment program model should be a policy-making mechanism for the Mayor. It is not designed for presentation to and adoption by the Council, nor is it a precise financial document usable for the Finance Office.

Planning Information

We recommend that:

(i) The Mayor's Special Assistant for Urban Affairs and the planning and research divisions of PUD and Progress for Providence jointly establish a system for reporting planning data.

(ii) The reporting system be keyed to program evaluation and the extent to which public needs have been met at various levels of public expenditure.

(iii) This reporting system be differentiated from the hereinafter described management information system (see Section e) in two major ways:

-- This information relates to achievement of program objectives rather than departmental performance or efficiency.

-- This information emanates from planning and research agencies rather than the line or operating agencies. (Some of this data, however, may have to be gathered from line agencies or from their computerized reports.)

d) Budgetary and Fiscal Planning

Operating Budget

We recommend that:

(i) Providence adopt an operating budget reflecting appropriations for each department in terms of activities[111], rather than organizational units but this transition be deferred until more experience with program planning and centralized reporting systems have been obtained.

(ii) The activities for which appropriations are made should be related to the broader framework of the investment program model, so that activity expenditures can be grouped by program categories and sub-categories; unlike the programs, however, the activities are intra-departmental and performed by the City.

(iii) The activity budget be developed by a committee composed of the Mayor's Special Assistant for Administration, the

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111 Some departments, notably Public Works and Building Inspections, budget in terms of organizational units which to a large extent perform only one major activity. However, even in these departments, there are activities bearing no relation to departmental structure, e.g., snow removal. Generally speaking, the present system does not give an accurate presentation of the relation between appropriations and services performed.

Mayor's Special Assistant for Urban Affairs, the Director of Finance, a representative from PUD and a representative from Progress for Providence (both of the last-mentioned representatives should preferably be from research),

(iv) The committee should:

-- Consult with directors and finance chiefs of the various City departments on the best way to make an easy transition in recordkeeping and on the best way to make an activity budget serve managerial needs of department heads.

-- Test out conversion difficulties by attempting to group current line items around the selected activities. This may dictate changes in any or all of the following: Activities, the object code, departmental recordkeeping and even department organization.

-- Consult with the Solicitor's Office to develop a list of the legal changes required by the budget changes.

-- Insofar as possible develop for each activity some qualitative and quantitative measure of performance.

(v) The Budget Office should:

-- Be strengthened in terms of personnel and power to enable the office to obtain more comprehensive and detailed justifications of budget requests.

-- Serve as the fact-finding arm of the Mayor to develop hard back-up data for budget analysis, including separate descriptions of each budgeted activity and the level of performance achieved for past expenditures as well as level of performance anticipated for requested appropriations.

Capital Improvement Budget

We recommend that:

(i) The compilation of the C.I.P. be delegated to the Finance Director and the Budget Office. The planners will retain control over programming and planning for major expenditures, which influence will be exercised on the C.I.P. in the following ways -- master planning, renewal planning, and creation of public investment program models (see Section c). As indicated on the following page (Paragraph (iii) Planning), the planners will have to approve the conformity of the C.I.P. to existing plans. However, the City Plan Commission (or its equivalent under reorganization) will be relieved of the essentially fiscal task of preparing a budget document.

(ii) The Budget Office fulfill the same role with respect to the C.I.P. as with respect to the operating budget, namely that it act as a fact-finding arm of the Mayor's Assistant for Administration to develop back-up data for budget analysis.

(iii) The Budget Office prepare an analysis of each capital project and that this background material be in five general sections, sufficiently flexible to meet the uniqueness of each project and department.

-- Basic description: Title, Project Number, Department, Purpose and Justification, Estimated Life, Functional Priority, Location, etc.

-- Funding[112]: Source of funds; if existing bond authority, the total and obligations; if State or Federal aid, the specific statutory basis and an assessment of whether such aid is likely; if an eligible non-cash contribution for renewal purposes, the amounts generated and the benefited project; check-off lists of steps in funding process.

-- Construction Schedule[113]: A detailed chronological listing of anticipated steps with approximate times and a column to show work progress.

-- Costs[114]: Estimated cost for each major step in the building process; description of how estimate was made; and an evaluation of the reliability of the overall cost estimate (in percentage of error terms); and actual costs. Finally, the cost impact on the operating budget should be noted by listing the activities affected, cost and year of impact.

-- Planning: Each project should be assessed as to its conformity to existing plans. (This is clearly a function of the planning section, now in PUD.)

(iv) The Budget Office should have the discretion to use or to abandon the present C.I.P. form,[115] it being clear in either event

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112 Funding information would probably derive from two main sources: (1) For future state and Federal aid, the research section of planning; and (2) for existing aid programs and all bond and current revenue financing, the Controller or Finance Director.

113 Much of this data would not be available at the departmental level, the Superintendent of Public Buildings having much of this data.

114 Some departments, notably the Public Works and Recreation departments, might need outside help to develop cost data. Redevelopment would be well advised to use its standard cost estimate sheets and to indicate the extent to which capital expenditures by other agencies figure in its cost projections.

115 Our recommendation would be that the present form be abandoned and that a more generalized form be developed based upon the five-part format suggested in the previous recommendation. Such a form, while retaining the overall five-part framework, could include specific inquiries tailored to the uniqueness of each department's undertakings.

that the responsibility of gathering budget data is fixed squarely on the Budget Office and that failure by departments to use the forms does not absolve the Budget Office from gathering the necessary data by other means of inquiry. The principal criterion on the Budget Office's performance should be its ability to provide accurate, in-depth data in each of the five key areas of capital budgeting, and the office should have the full support of the Mayor's office in this endeavor.

(v) The Budget Office present the C.I.P. to the Mayor's Office in three formats:

-- A standard organizational format presenting capital expenditures in departmental categories.

-- A renewal format reflecting the relationship of capital improvements to renewal projects and renewal funding.

-- An activity format[116] reflecting the purposes to be served by the various capital expenditures.

(vi) The C.I.P. be adapted to data processing so that it can be presented in a variety of formats and so that the Mayor can more readily determine the effects of adding or omitting projects, or the effects of changes in schedule, costs, funding, etc. Consistent

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116 As described hereinafter, this format should be interrelated with the activity code of the operating budget. Pending the development of an activity budget, this format for the C.I.P. can stand independently.

with this goal, key-punch cards should be prepared for each project reflecting at the least:

-- Title and project number

-- Department

-- Location (primarily renewal, non-renewal areas)

-- Source of funds, including detailed coding for State and Federal aid programs

-- Eligibility for non-cash credits

-- Year of initiation and completion

-- Cost

-- Accuracy assessment of cost (percentage margin of error)

-- Related cost in operating budget by amount, year and activity

-- Type of building, facility, etc.

Integration of the Budgetary Process

We recommend that:

(i) Providence integrate its capital and operating budget as follows:

-- Fiscal year 1968-69 -- both budgeting processes be brought under the control of the Budget Office with the preparation,analysis, presentation and adoption of both budgets being concurrent, though in separate formats.

-- When an activity code is adopted, it be projected over the same period as the C.I.P., reflecting both the impact of capital expenditures and the

expansion, addition or deletion of activities. the C.I.P. will be adapted to the activities of the operating budget, and both budgets will be presented in a common activity format. To facilitate this process, the data processing code for the two budgets should be keyed to the same activity descriptions.

Projection of Revenues and Funding over Time

We recommend that:

(i) The Director of Finance accompany his submission of budget data to the Mayor with the following data:

-- A six-year projection of revenues based upon current tax rates, allowing for changes in property valuation and for loss of taxable property due to renewal.

-- A status report on every existing Capital fund and the likely date of its exhaustion at current rates of expenditures.

-- A six-year projection of debt service costs, anticipating new bond issues in the period and/or exhaustion of borrowing against previously authorized bond issues.

-- Insofar as feasible, a list showing all State and Federal aid funds expected by the City over a period of at least two years and the activities or projects to be aided; this list is to be based upon the funding data gathered from the planning and research divisions by the Budget Office and by the Controller's analysis of aid received by the City in previous years.

(ii) The Mayor's special assistants submit the operating and capital budgets to the Mayor with an accompanying analysis showing the likely effect of these expenditures on tax rates, bond scheduling and need for outside funding.

(iii) The Mayor's special assistants file a quarterly report with the Mayor indicating all changes in the City's fiscal posture which would improve or lessen its financial ability to meet its long-term or short-term commitments.

e) Management Control

We recommend that:

(i) A reporting system be established to establish a flow of managerial data from the various City departments to the special assistant to the Mayor who serves as their formal communicating link.

(ii) The system be established in the following phases:

-- Fiscal year 1967-68 (or possibly before) -- a reporting system should be established in major agencies (School, Progress for Providence, PUD, Public Safety, Parks, Recreation). The data collected should be basic statistical data on the more important departmental operations and the actions taken on major departmental programs. The reports should be based upon current departmental recordkeeping and need not have any necessary relation to the budget process or to departmental efficiency.

-- Fiscal year 1968-69 -- the reporting system should be extended to all departments and should include a report on the quantitative work units achieved for each activity expenditure as well as some qualitative measure of performance for each activity.

(iii) The system be used primarily by departmental administrators but that the Mayor's administrative staff use it as follows:

-- To report to the Mayor any serious inefficiencies or shortcomings in performance.

-- To assist them in analyzing the justification for budget requests and making recommendations to the Mayor.

-- To have important departmental data at hand for ready reference.

-- To oversee the implementation of key programs and major capital undertakings.

(iv) In addition to departmental reporting the Mayor's Special Assistant for Urban Affairs oversee the state and Federal aid programs as follows:

-- His approval should be required for all funding applications and all amendments or changes in applications.

-- Copies of correspondence from state and Federal agencies with respect to aided programs should be sent to him; in addition, he should be apprised of all personal meetings with state and Federal officials.

-- He should maintain a schedule of funding activity and submit to the Mayor a monthly report on the status of the City with respect to Federal and state aid programs.

-- He should supervise all accounting and record-keeping procedures pertaining to aid programs and should keep the Finance Director and Controller informed of all funding activity.

(v) The Mayor's Special Assistant for Administration and the Finance Director create sub-codes related to the object codes on maintenance so that maintenance expenditures can be broken out for each city-owned vehicle, building, facility and land area. This data need not be included in the management reporting system, but it should be available to the Mayor's staff and Finance Director, so that serious maintenance problems can be the subject of special reports to the Mayor.

f) Regional Planning and Relations with State of Rhode Island

We recommend that Providence take immediate steps to strengthen its relationship with relevant state agencies in the following manner:

(i) A major state official be appointed to the Model Cities Task Force recognizing the key role of state government in providing social services to the residents of Providence.

(ii) Progress for Providence is to be designated as the City's liaison agency with state social service agencies. Initially, much of this liaison will be to gather information concerning needs for and provision of social services within Providence.

(iii) Negotiations begin between the Department of Planning and Urban Development and the state planning offices regarding the procedures for implementing and administering the comprehensive planning requirements of the 1966 Model Cities and Metropolitan Areas Act.