

3/15/71

DEPARTMENT OF PLANNING AND DEVELOPMENT
CITY HALL, CAMBRIDGE 876-6800, ext 271

PLANNING INFORMATION SYSTEM

Progress Report #1

SUMMARY

The planning of programs and development in Cambridge has long suffered from a lack of adequate information. In many instances information needed for planning activities is simply not available, and most agencies and groups lack either the money, time, or ability to develop it. In other cases agencies and groups have wasted time and money generating information which was already available from some other source.

The Planning Information System is a program being conducted by the Cambridge Department of Planning and Development in an effort to deal with this problem. It is one component of the Community Development Program (CDP) funded by HUD. Currently working on the program are two staff members of the Department of Planning and Development, with assistance from the Cambridge Model Cities Agency.

One major goal is the development of information into useable form. Projects in this area include: analysis of the 1970 Census; development of local data sources and Census information into a Data Bank; the DIME file, a tool for analyzing and mapping data; possible limited survey work.

The second main thrust of the program is to put information, or knowledge of its whereabouts, in the hands of the people who need it -- agency planners, community groups, and the general public. Projects

include: the publication of a revised edition of Social Characteristics of Cambridge; development of an Information Directory; occasional reports such as the present one; press releases on new findings as information is developed; preparation of maps; direct assistance to information users on request.

Logically, our work might include all types of information needed for public and quasi-public planning. As a practical matter, however, we must be selective, since our resources are nowhere near adequate for a comprehensive approach. We have chosen as priority areas demography, housing, the City economy, and social services. While we will be working in all of these areas from the start, we will concentrate first on demography, second on housing, etc.

FOLLOW-UP TO CENSUS USERS' MEETING

Representatives of some twenty-five Cambridge agencies and organizations attended the first Census Users' meeting on January 11, 1971. Follow-up discussions are being held between Planning and Development staff and those agencies which indicated interest in individual meetings. These meetings have provided greater opportunities to explore the information resources of each agency. Among the topics of discussion have been: data files and records kept by each agency; how information is used by agencies in planning and evaluating programs; means of combining local data files with DIME mapping capability; needs for new surveys; description of census data and materials. These meetings have aided our work in compiling an Information Directory and planning census analyses.

1970 CENSUS ANALYSIS

The First Count Tapes for Massachusetts, originally promised for October, 1970, were finally released by the Census Bureau on March 12. The exact reasons for the delay are unknown to us, but probably relate to the fact that the new mail-back census technique was used in most of the state. Since this technique was used for the first time in the 1970 census, there have been new problems in checking and editing results. Programs for listing data from the tapes are ready, and we expect to have the first printouts from our consultants, Urban Data Processing, within two weeks. The first printout will contain items listed at the end of this newsletter. This information will be available at the blockgroup level and can be aggregated to tract and city totals. The printouts will be kept in the Planning and Development office, City Hall, and may be used by local agencies and organizations.

We are currently planning to do a considerable amount of data manipulation and analysis within our office. Typical calculations will be: concentrations of households with unrelated individuals; racial composition in different areas of Cambridge; rates of owner-occupancy and renter-occupancy and their relationship to median values and rents; average household size per blockgroup by median rent and by tenure; concentrations of elderly and of families with young children; over-crowded units per blockgroup by median rent; and age pyramids. We welcome suggestions from census users on ratios and indices which can be derived from the basic block group data.

DATA BANK

The Data Bank will be a series of computer "files" of selected information and the computer "software" necessary to use them. Data Bank files will deal with information which involves a large number of records and can be most effectively handled with computer techniques. For example, one file will contain information on every real estate parcel in the City.

With the information in computer form (punch-card or tape) we will be able to do various kinds of analysis which will make the information more useful. For each file the information can be easily presented in any desired breakdown. Statistical analyses will be readily available. And the information from two or more files can be combined. (See DIME File, below).

We are currently evaluating information sources which might be used in the Data Bank. The following files seem likely at present:

- Assessors' Records (data on land use, densities, housing stock, industrial and commercial space, land and structure values).
- Building Permits (additions, subtractions, and changes in the housing stock and industrial and commercial space).
- Housing Inspection Records (partial information on the condition of the housing stock).
- Police Listing (data on occupations, population changes, age distribution).

There are many other data sources which might be included. However, with our limited budget we must carefully evaluate them from several points of view: How useful will the resulting information be? How reliable is the data? How much will it cost to "clean" the data and convert it into

computer form? Is there a problem of confidentiality?

We hope to have the data bank operating and producing useful information this spring.

DIME FILE

The DIME File is the heart of a computerized system which will enable us to link various types of records and data together to produce new and more valuable information. With it we can produce maps (e.g. a map of rent levels) and tables of information broken down in a variety of ways (block, census tract, school district, etc.). The DIME File can be used with any records which contain a geographic identifier (street address, block number, census tract number, etc.). All of the files in the Data Bank can be used with the DIME File.

"DIME" stands for "Dual Independent Map Encoding," which is the technical process involved in preparing the file. The file itself consists of records of each street segment in the City. Each record describes the address range, the numbers of the blocks on either side of the street segment, its geographic coordinates, and other information. This file in combination with appropriate computer programs is, in effect, a computerized map of the City.

The preparation of the Cambridge DIME File is presently underway. It should be usable by mid-April.

SOCIAL CHARACTERISTICS OF CAMBRIDGE

Preparations for an update of Social Characteristics of Cambridge, last issued in 1962, are underway. The new report, to be published in several volumes over the next year, will expand upon the analysis of population and housing characteristics found in the last issue, but will also include many identical items to permit comparisons between 1960 and 1970. The basic unit analysis will be the census tract; in addition, data will be aggregated to larger planning areas: Model Neighborhood, GEOC Planning Neighborhoods.

Various social indicators, such as rates of welfare dependency and juvenile delinquency, will be mapped by census tract to illustrate the geographic patterning of problem areas in the City. With the use of these indicators social problems can be correlated with demographic and housing characteristics taken from the 1970 Census. Significant relationships between various indicators will be tested using the Spearman rank correlation coefficient and other statistical procedures.

Information for the updated report will come from local sources and from the census. With the cooperation of local social and welfare agencies, the Crime Prevention Bureau, and the Third District Court, we are collecting caseload numbers by census tract in Cambridge. The census itself will provide extensive data on age, race, family size, rents, housing occupancy and tenure, overcrowding, etc. Statistics on housing, population, and social problems will be included in the first volume, which should be ready for publication by early summer. Next winter the Census Bureau will release data on detailed socio-economic characteristics such as

occupations, unemployment, ethnic origin, education, mobility, and journey to work. A second volume of Social Characteristics will be compiled from this information and additional local records such as the police list.

INFORMATION DIRECTORY

Our Information Directory is an indexed list of information sources. We have started compiling it on the basis of our interviews with planning agencies and groups. We strongly hope that as people use it they will contribute their own knowledge of what information is available and where. With such a cooperative effort the Directory will soon become relatively complete and will, in effect, update itself.

At present the Directory index is in the form of a matrix with approximately 60 source agencies down the side, and categories of information across the top. These following categories are included:

- Demography (general; household composition; age; race; income).
- Housing (general; supply; demand; market dynamics; development).
- Economic Development (general; industries; manpower; land; City economy).
- Social Services (general; health; welfare; education; child care; recreation; crime).

These subdivisions are tentative and may be changed as we gain experience with the Directory.

For each information item, (e.g. the Building Department's file of building permits issued) the appropriate cell(s) in the matrix contain

a number. This is the number of the item on a list of all items whose source is the Building Department. These lists, one for each of the source agencies, are filed alphabetically. They contain, for each information item, a description of the content and form of the file, record, report, or whatever it may be, and an indication of where it is available (many items are available from other than the source agency). Thus one may look up either all sources of information in a given category such as "housing supply," or all information originating in a given agency.

The Directory will remain in matrix and file form for the immediate future. When the matrix has been sufficiently filled in, we will convert it into a subject index and print both index and file for distribution. In the meantime, anyone interested may use the Directory in our office, third floor, City Hall, or telephone us, with questions.

TECHNICAL ASSISTANCE

The Planning Information System staff will offer other information services in addition to those mentioned above. A census map listing 1970 tracts, block-groups, and block numbers is being prepared. Prints of this map will be available at 400' scale for the cost of reproduction and at 1200' scale for free. Agencies may request special computer runs on local data or census data; we will try to process these requests insofar as our budget and priorities for data analysis permit. We will offer technical assistance in using census materials, designing record forms for information files, and planning new surveys. Eventually we hope to

develop standard codes so that records from one agency can be compared directly with those from another dealing with the same subject. From time to time we will issue progress reports similar to this one.

We would appreciate any comments or suggestions for our work program.

Please call or visit Jack Partridge or Sandra Frawley, 876-6800, ext. 271, rm 307, City Hall.

1970 FIRST COUNT SUMMARY TAPE

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Progress Report #1 from the Dept.
of Planning and Development

March 22, 1971

IN CITY COUNCIL March 22, 1971

PLACED ON FILE
Paul E. Healy
City Clerk