

# DATA TAPES and REELS



A NEWSLETTER ABOUT  
MACHINE-READABLE DATA ACQUISITIONS BY THE UNIVERSITY

NO. 2 SOCIAL SCIENCE DATA ARCHIVE SURVEY RESEARCH LAB. MARCH 1971

## Census Tape Committee

A committee has now been formed to coordinate data needs on the three University of Illinois campuses. The committee is composed of faculty members on the three campuses, and its function is to determine the types of data to be acquired, the best methods of acquisition, and general provisions for the use of the data. The members of the Census Tape Committee are as follows:

James L. Divilbiss  
Department of Computer Science  
Urbana

Brigitte Erbe  
Department of Sociology and  
Department of Computer Science  
Chicago Circle

Karl Johnson  
Department of Political Science  
Urbana

T. E. Ratcliffe  
University Library, Urbana

Lewis Rowitz  
Department of Community and  
Preventive Medicine  
Medical School

Edwin N. Thomas  
Center for Urban Studies and  
Department of Geography  
Chicago Circle

Robert Resek  
Department of Economics, Urbana  
Committee Chairman

Although exact provisions are as yet indefinite, data will be available to all members of the University community. The University is also working on developing an information systems service based on the 1970 Census tapes and other machine-readable data to be acquired. The initial work is being undertaken by Edwin Thomas and Clark Schneider of the Center for Urban Studies on the Circle Campus.

## Acquisition of Census Tapes

The tapes as distributed by the Bureau of the Census cannot readily be used for analysis until they are reformatted. Besides being poorly organized and loosely packed, they are written in geographical sequence in a format that is not easily read by the University's sophisticated computers. The tapes were not designed for analysis; they are intended to be read by simple computers

for the purpose of print-outs. This is satisfactory for some governmental agencies, but not for academic or other research projects. This necessitates purchasing reformatted tapes, in both geographic and variable sequences.

Such reformatted tapes are being prepared and distributed by the National Data Use and Access Laboratories (DUALabs). The DUALabs tapes are more densely packed and are written on 9 track tape at either 800 or 1600 bpi, reducing the total number of tapes from 2,000 to between 250 and 500. The tapes will be distributed at the cost of reproduction, between \$35 and \$40 per reel as opposed to \$60 per reel from the Bureau of the Census. DUALabs is also developing programs for reading, tabulating, and summarizing census data.

To obtain these tapes from DUALabs, organizations have to purchase one of two types of memberships, which vary in price from \$7,500 to \$24,500. However, group memberships are also obtainable, and this is what the University has decided to do.

Through a plan offered by the Chicago Association of Commerce and Industry, the University is purchasing a group membership at a greatly reduced rate which will provide access to all the tapes in the software of DUALabs at the member rates. Plans are currently being made on what tapes and software will be acquired by the University.

#### New Staff Position

A new position of Senior Information Analyst has been created within the Survey Research Laboratory. It has been filled by Dr. Daniel Amick, who received his B. S. from Shippensburg College in 1966 and his Ph. D. last year from the University of Pittsburgh. He is currently helping to develop an information retrieval system at the

Knowledge Availability Systems Center of the University of Pittsburgh. In his new position at the University of Illinois, Dan will be in charge of organizing and disseminating census materials and other data in machine readable form. He and his staff will develop user programs and will aid persons in retrieving and analyzing data.

Dan will hold a joint appointment with SRL and the Department of Sociology. Since one of his responsibilities will be to coordinate activities on the three campuses, he will alternate his time between Urbana and Chicago. He will begin work in July or August.

#### The Latest on Census Materials

##### Machine Readable Data

The Bureau of the Census began distribution of tapes in September, with the release of "first count" summary tapes for Montana and Wyoming. These first count tapes contain population figures by enumeration district for non-mail census areas and by block group for mail areas; the average population for a block group or enumeration district is approximately 800. The first count is taken from the 100% questionnaire and contains summaries for 12 population items and 21 housing items. Among the population variables are age, sex, marital status, relationship to head of household, and overcrowding. Some of the housing variables are occupancy, vacancy status, units in structure, number of rooms, plumbing, value or rent, and heating equipment. Tapes for the more populous states, including Illinois, have not yet been issued.

Summary Counts 2 and 3 contain much the same data as the first count. They are derived from the complete count questionnaire, contain approximately the same variables, but differ

primarily in their much more detailed geographic coverage. Release for Counts 2 and 3 follows that of the first count.

The fourth, fifth and sixth counts are based on the 5% and 20% samples. Since these questionnaires were more complete, the fourth, fifth, and sixth summary tapes include more variables. The fourth and fifth counts will include 30 population and 35 housing items, including education and income. Data on the fifth count tapes will be summarized by three- and five-digit ZIP-code areas. Both the date of release and the content of the sixth count are uncertain. It is scheduled to contain data for cities over 100,000; it may also contain data for smaller SMSA's, individual counties inside SMSA's and large, non-SMSA counties.

#### Printed Materials

The Bureau of the Census is also issuing data in printed form. Among the printed reports now available are the following:

##### 1. Population Counts for States.

This series contains a separate report for each state, giving population counts for the state, each county, and each incorporated place of 1,000 inhabitants or more. The preliminary reports have been issued for all states, but final reports are complete only for the lesser populated states.

##### 2. Population Counts for Standard Metropolitan Statistical Areas.

This series contains reports for each SMSA within the U. S. There were 230 such areas as of April 1, 1970. Population data are given for the SMSA, and for the area outside the central city or cities.

##### 3. General Population Characteristics.

These reports are also issued by state and include basic demographic characteristics of inhabitants, including age, sex, race, and relationship of resident to head of household. Data are

also broken down by SMSA and by incorporated areas of 10,000 inhabitants or more. Reports have not yet been issued for the more populous states.

4. Housing Counts for States. This report gives numbers of housing units and vacancy status, broken down by state and for each incorporated place of 10,000 or more inhabitants. Preliminary reports are available for all states.

5. Housing Characteristics. In addition to the data included on the Housing Counts reports, these reports include the following variables: population in the housing unit, tenure, race, number of rooms, plumbing, units in structure, value or rent, and persons per room. As with Population Characteristics, reports for the larger states have not yet been issued.

6. Population of Congressional Districts. This report gives population by Congressional districts, by boundaries used in the election of the 91st Congress in November, 1968. Six states used a revised set of Congressional districts in the 1970 election. The report indicates that growth within districts has been very uneven, necessitating redistribution by virtually every state containing more than one Congressional district.

Since Illinois is one of the most populous states, census tapes for the state have not yet been issued; but much of the printed material is available. These include the preliminary population and housing counts and population counts for SMSA's.

#### Highlights of the Census

As of April 1, 1970, the total population of the United States was 204,765,770; this figure is based on preliminary reports and includes Armed Forces personnel stationed abroad. The preliminary resident population was 203,184,772. The latter figure represents a 13.3% increase over the decade. While the absolute increase was the second largest of any

decade in U. S. history, the percentage increase is the second lowest; the only decade with a lower percentage increase was the 1930's.

The latest Census will result in some redistribution among states of representation in Congress. Those states gaining seats in the House of Representatives are: California (5); Florida (3); Arizona (1); Colorado (1); and Texas (1). Those losing seats are: New York (2); Pennsylvania (2); and Alabama, Iowa, North Dakota, Ohio, Tennessee, West Virginia, and Wisconsin (1 each).

Illinois' population in 1970 was 10,977,908, up 8.9%, or an absolute increase of about 900,000. It dropped in rank over the decade from fourth to fifth.

The population of Cook County was given at 5,427,237, an increase of 5.8%. The population of the city of Chicago showed a 6.4% decrease, dropping from 3,550,404 to 3,322,855. However, Chicago still retains its position as the second largest city in the nation.

The population of the Chicago SMSA is 6,892,509; this represents a 10.8% increase over 1960. The Chicago SMSA includes the counties of Cook, DuPage, Kane, Lake, McHenry, and Will. DuPage County showed the largest percentage increase--54.5%.

Preliminary counts for Champaign County (the Champaign-Urbana SMSA) show the 1970 population to be 162,107, a 22.4% increase over 1960's figure of 132,436. The population of the city of Champaign is 55,976, a 12.9% increase. Urbana's population is 32,624, an increase of 19.5%.

As of April 1, 1970, there were 3,701,346 housing units in Illinois, not all occupied. This represents a 12% increase over the decade. The number of units in Chicago was 1,209,068, a decrease of .5%. There were 17,672

units in Champaign, a 23.8% increase; and 9,775 units in Urbana, a 14.5% increase.

#### Request for Information

Since the intent of the Census Committee is to purchase tapes that will meet your data needs, we would like to know your research plans. The University will probably purchase a complete set of Illinois tapes, but no definite decisions have been made with respect to purchase of other geographic units or tapes formatted in variable sequence. Since the University wants to purchase tapes that will satisfy your needs, we encourage you to fill out the enclosed questionnaire. There was good response from the first newsletter, and we would now appreciate more feedback to serve as a means of helping us determine what tapes to purchase and how to design the most effective information system to meet your needs.

#### Correction to First Issue

There was an error in the copies of the first newsletter distributed on the Urbana campus. The last sentence under Tape Usability on page 2 should read, "We will have further news about this in future issues."