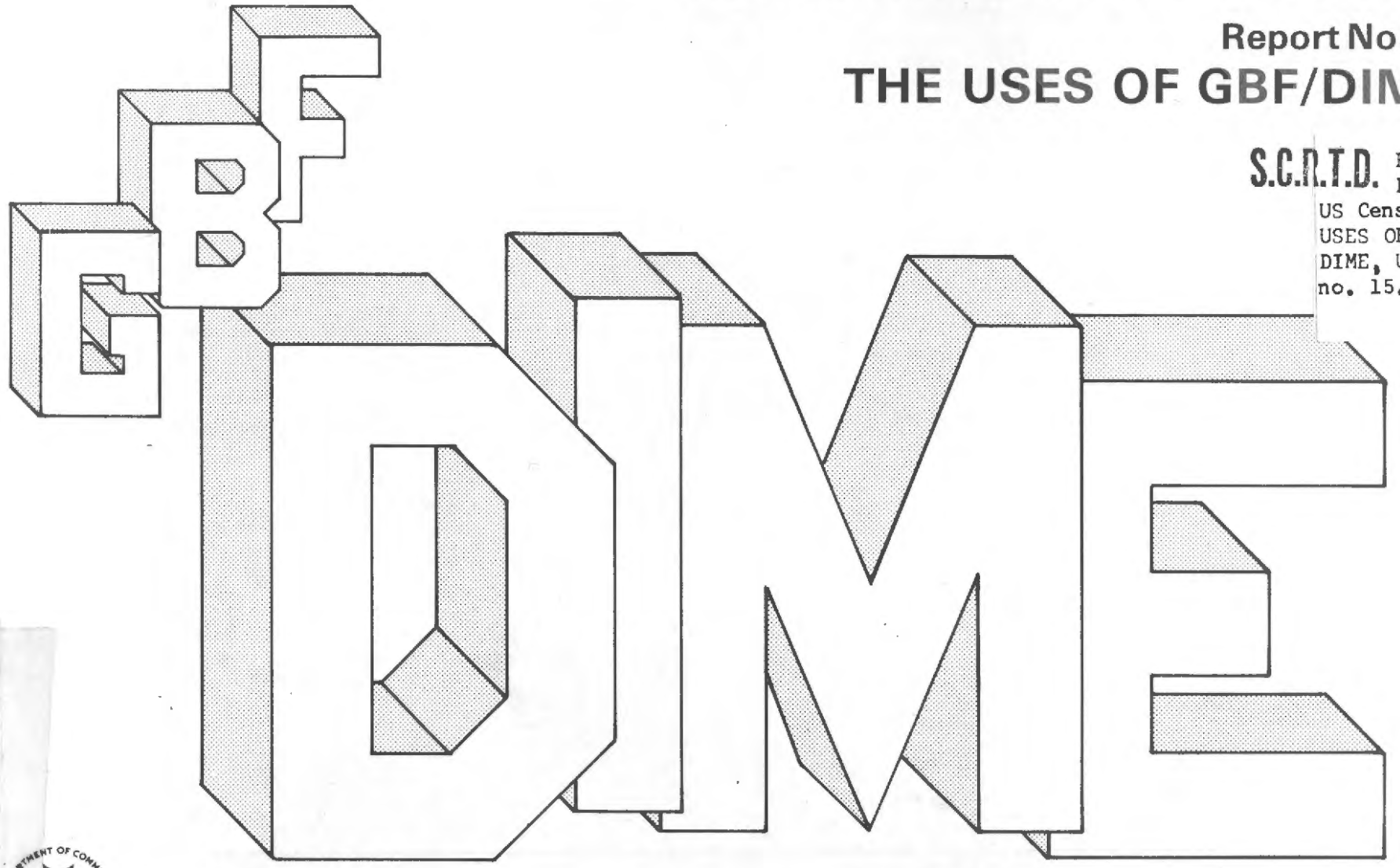
census use study

Report No. 15

THE USES OF GBF/DIME



U.S. DEPARTMENT OF COMMERCE
Social and Economic Statistics Administration
BUREAU OF THE CENSUS

HOUSTON • GALVESTON
AREA COUNCIL

Report No. 15
THE USES OF GBF/DIME

Issued June 1974

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The Census Use Study is under the direction of Caby C. Smith, Project Director.

The publication was planned and designed by Dorothy Bomberger, Education Coordinator for the Census Use Study. Special appreciation is given to Ron Crellin, Sharon Gongwer Johns, John Kavaliunas, Alex Kennedy and Lu Ann Waring for their assistance in preparing the final publication.

Joe Pyle, Systems Director, and the Graphics Art Department of the Houston-Galveston Area Council provided generous assistance in the completion of the publication.

Chairman
Census Advisory Committee on
Small Area Data
U.S. Bureau of the Census
Washington, D.C. 20233

At a meeting of the Census Advisory Committee on Small Area Data, members of the Committee suggested that the experiences of GBF/DIME Technology users be documented and reported at the Advisory Committee meeting in May 1974. The Census Use Study has been compiling these experiences during its series of DIME Workshops and is presenting this as the first edition of The Uses of GBF/DIME.

The Census Use Study and the Houston-Galveston Area Council are cooperating in the timely release of this publication so that current experiences reported at the Houston Workshop, as well as applications reported by users across the country, can be documented and disseminated to local officials who are considering the implementation of DIME-based urban information systems. This Guide should also provide a tool for current users who are considering new and different ways of applying the technology.

We hope this Guide will promote the documentation and dissemination of user experiences and will speed the process of getting DIME into action to aid local decisionmakers.

Sincerely,

CABY C. SMITH
Project Director
Census Use Study

Sincerely,

ROYAL HATCH
Executive Director
Houston-Galveston Area Council

CONTENTS

INTRODUCTION

Since mid-1972 Geographic Base/Dual Independent Map Encoding (GBF/DIME) Files have been available to almost 200 Standard Metropolitan Statistical Areas (SMSA's) across the country. Local experience with the use of the files and their application is accumulating. Although no one agency has access to all the information about applications, the Census Use Study has received a considerable amount of information through its series of DIME Workshops, its daily interface with users, a survey of the local agencies which serve as primary contacts for Address Coding Guide (ACG) and GBF/DIME (or DIME) file work throughout the country, and by DIME technology experts who have served as resource people in the Workshops*

The availability of the DIME files is a direct result of the Address Coding Guide Improvement Program (ACGIP) initiated by the Bureau of the Census. The availability of such computerized reference files has contributed to the increased sophistication of small area data analysis. Both ACG's and DIME files are in widespread use for small area analysis; applications of both files are included in this publication.

Although a few detailed reports on local applications are included, most of the material is presented in the form of excerpts or abstracts. Whenever feasible material was included as submitted by the author, or excerpts were taken from more detailed reports. Some minor changes were made to adapt the information supplied to the publication style.

Information included in this publication is organized into the following sections:

- DATELINE HOUSTON: DIME Applications Reports Submitted at Sixth DIME Workshop

  Participants in the sixth DIME Workshop were asked to prepare reports on the current status of DIME file use in their SMSA. These reports provide a broad range of current applications of DIME and, in general, are more detailed than reports included in later sections. Reports are alphabetized by state.

* *See Glossary pages 163 and 165 for a brief description of ACG and DIME. See page 4 for a more detailed description of GBF/DIME.*

- DIME APPLICATIONS: Abstracts

  Participants in the first five DIME Workshops, local users across the country and experts in the use of DIME technology have contributed reports in different styles and varying degrees of detail. Their reports have been summarized or abstracted and organized by functional area, such as education, health, and transportation. Within each functional area reports are alphabetized by state.

- DIME APPLICATIONS: CARPOL Users

  One current application of the DIME files which is being reported by numerous cities across the country is the implementation of automated carpool programs using the Census Use Study's CARPOL system. A description of the CARPOL program plus profiles of how the program has been implemented in several selected cities are included in this section.

- DIME APPLICATIONS: Future Prospects

  The previous sections of this publication include summaries of the applications that have already been completed or are in progress. This section contains a sampling of planned projects which will utilize the capabilities of DIME technology.

- ON CUE: Correcting, Updating and Extending the DIME Files

  If the DIME files are to be useful to local users as well as to the Census Bureau, the files must be maintained. To accomplish this the Census Bureau has established a program for the Correction, Update and Extension (CUE) of the files.

This section includes:

- A description of the CUE program.
- A list of the local DIME contacts by state and SMSA.
- A list of the local ACG contacts by state and SMSA.

- GETTING IT TOGETHER: Local Coordination for DIME File Use

Although correcting, updating and maintaining the DIME files requires a substantial investment the effort can be quite modest if it is done annually. Often, however, the resources necessary to do the job right are not available from a single source. Numerous cities are reporting the creation of DIME user groups or local committees to pool resources and share the benefits of having a current, operational DIME file available for local use.

This section includes highlights of activities designed to promote local cooperation in the maintenance and use of the DIME files.

- GLOSSARY

Selected terms used in the text are defined in this section.

- INDEXES
  - By Geography
  - By Subject Matter

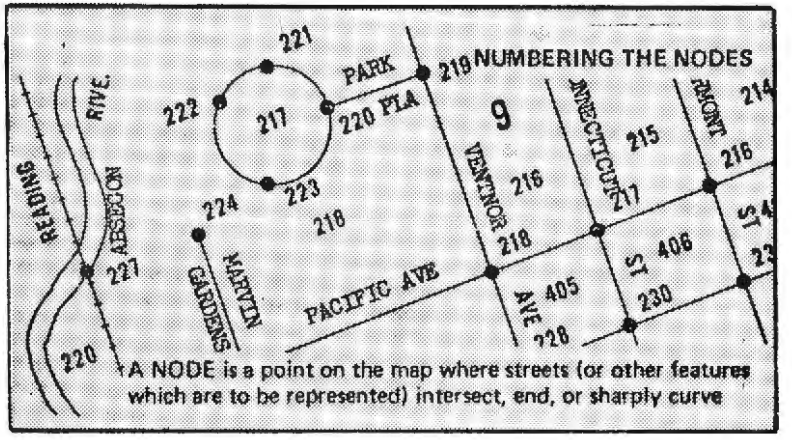
The GBF/DIME file is a useful tool for local governments and other organizations concerned with small area data. This reference file, developed by the Census Bureau, provides a means to efficiently relate local data to census data or to other local data through address information.

Dual Independent Map Encoding

GBF/DIME stands for Geographic Base File/Dual Independent Map Encoding and refers to the computerized files created by the DIME process. This approach combines address information with information sufficient and necessary to describe the urban street network. By considering each street as a series of lines and each intersection as a node, the entire region covered by the file can be viewed as a series of interrelated nodes, lines and enclosed areas. Other features, such as streams or jurisdiction boundaries for example, may also be defined in terms of segments and nodes.

In creating a GBF/DIME file, each distinctive element represented on a map is examined and, at points where streets or other features intersect, end, or curve sharply, a node number is assigned.

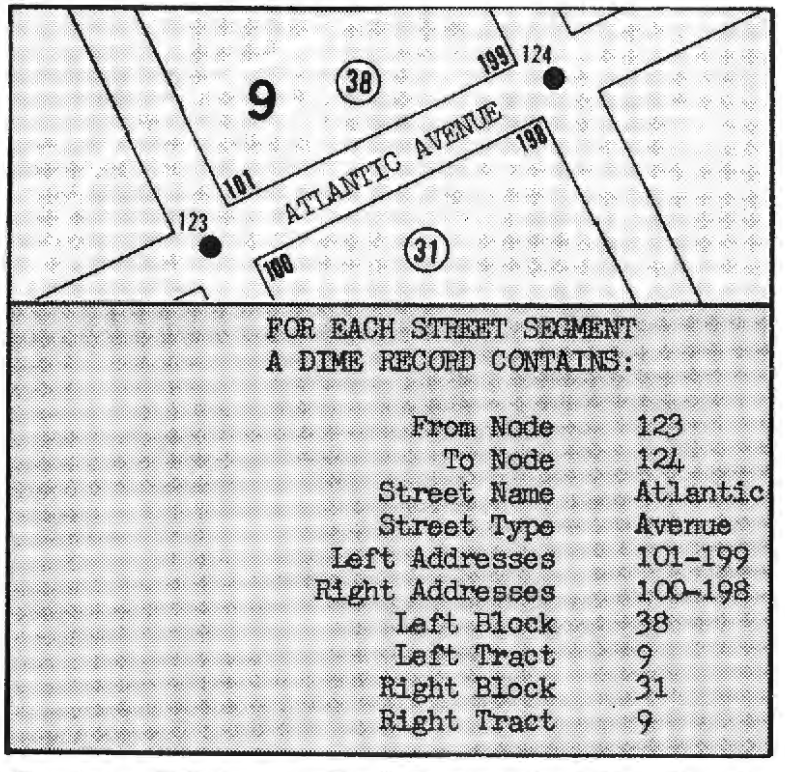
This is illustrated as follows:



For each segment of a street (i.e., the length between two nodes) the GBF/DIME file contains the following information: the "from" node, the "to" node, the street type (e.g., avenue, drive, way, etc.) the address range on the right side of the street and the address range on the left side.

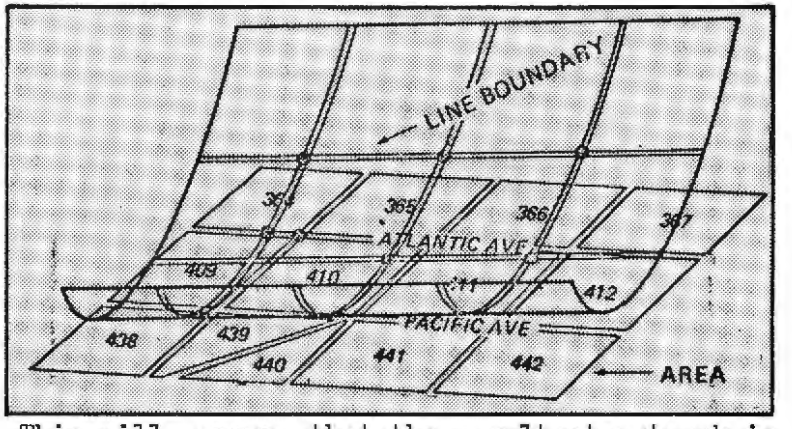
Moreover, each block, census tract and other geographic division is uniquely numbered. Special codes for these geographic areas (on the left and right sides of the street segment being defined) are also included for each record in the GBF/DIME file.

The illustration below shows some of the information contained in the GBF/DIME file for the 100 block of Atlantic Avenue.



The term DIME, or Dual Independent Map Encoding, then refers to the fact that the basic file is created by coding two independent matrixes: a) the nodes at the end of the line segments and b) the areas enclosed by the nodes and line segments.

The computer constructs these two independent networks -- one of line boundaries and one of areas -- and matches them.



This will ensure that the resultant network is completely represented and all the land is accounted for.

After coordinates are added, the computer can use this information to plot a complete replica of the source map.

DIME Applications

DIME, which grew out of the research efforts of the Census Bureau, was soon found to have applications for local users as well as for the Census Bureau. State and local governments, and private data users discovered that the GBF/DIME file could be used for geocoding and integrating their own files and records. Moreover,

local data could be efficiently related to census data at various geographic levels and information could be retrieved easily by the computer.

Presently, some 200 standard metropolitan statistical areas in the U. S. (as well as several foreign countries) have GBF/DIME files and are using DIME and DIME-related techniques in their urban information systems. These files will also be used for the 1980 Decennial Census.

DIME has been used by local agencies in determining the best location for child day-care centers, in restructuring police beats, in implementing carpool programs, in designing school bus routes. Numerous applications of DIME technology have also been reported by specialists in transportation, public health, urban and regional planning, law enforcement and criminal justice, communications, marketing, social welfare, political administration and other fields.

DATELINE HOUSTON: DIME APPLICATIONS

Reports Submitted at Sixth DIME Workshop

"Already underway with a neighborhood survey, we are anticipating many other uses for our new GBF/DIME file capability."

Roscoe H. Jones
Director
Houston City Planning Department

THE HOUSTON DIME WORKSHOP

The Houston DIME Workshop was the sixth in a series of DIME Workshops organized and developed by the Census Use Study of the U.S. Bureau of the Census and supported by the Ford Foundation, the U.S. Department of Housing and Urban Development, the Defense Civil Preparedness Agency and the National Association of Regional Councils. The National Science Foundation provided support for the development of training materials and methodology. The Houston-Galveston Area Council served as the local host and sponsor for the sixth DIME Workshop and is cooperating in the release of this publication on the uses of GBF/DIME technology.

Participants in the sixth DIME Workshop were asked to prepare reports on the current status of DIME file use in their SMSA. These reports provide a broad range of current applications of GBF/DIME and are more detailed, in general, than reports included in later sections. Following the Houston article, reports are alphabetized by state.

Implementing a Neighborhood Improvement Planning Program

The Problem

The Houston-Galveston Area Council represents 13 counties and 106 other local governmental units. To enable such a diverse group to coordinate their activities, some semblance of organization must be established.

Each school district, each water district, each county and each city must assemble its own data by small geographic areas so that it may be aggregated and compared by whatever geographic areas are required. The age statistics collected by the Bureau of the Census and updated by the school districts and others are of interest to city and county planners concerned with identifying the best sites for recreation centers for the youth and nutrition centers for the elderly. The identification of increasingly deteriorating neighborhoods or of improving neighborhood environments is of interest to each government and the data on an accumulated basis is of interest to the Area Council itself.

The network of streets and roads provides the basis for the planning framework that builds from block or neighborhood to the area represented by the Area Council - 12,500 square miles.

Such a network already exists in the form of a geographic base file called GBF/DIME. It was developed by the Bureau of the Census and is available to local governments upon request. This automated reference file enables the local governments to add their local data to the geographic framework that has already been provided.

What Was Done

The city of Houston is the largest local government in the Houston-Galveston Area Council's 13-county area. In 1973 the Houston City Planning Department received a $90,000 grant matched by $45,000 in local contributions from the Department of Housing and Urban Development under the provisions of Section 701 of the 1954 Housing Act. "701" planning programs have enabled many communities to develop comprehensive plans and other useful planning tools.

The current project being undertaken by the Houston City Planning Department--the Neighborhood Improvement Planning Program -- is designed to provide an intermediate study of the older areas of town--"the inner city"--neighborhood-by-neighborhood. The resulting set of plans drawn up for each neighborhood

is designed to halt the decay in the particular area and to promote a sense of pride and a willingness to participate on the part of the citizen. (Citizens determined what constituted each neighborhood's boundaries.)

The Bureau of the Census provides the socio-economic data at the tract level and to a lesser degree at the block level but it does not provide any information as to what is actually on the ground at a specific address or what the condition of the structure or site is. The planners needed an inventory of the physical structures and open spaces that were contained in each neighborhood. A windshield survey was designed to take the inventory -- grading housing structures, non-residential structures and streets. Each survey form was completed with the respective address and the data relative to the structure, open space or street under scrutiny. The survey forms were designed so that the information contained on them could be made machine-readable.

For each neighborhood, draftsmen were preparing between 15-20 maps--both from survey data and Census third count data. Without a great amount of clerical work, total counts from the department's survey for a physical city block--such as the data present in the third count reports -- were not possible. If the survey data could be related to block, then block statistics would be available. Also, as blocks on the survey could be related to blocks on a map with XY coordinates, then machine-drawn maps would be available.

The DIME file, unused since it was originally prepared, appeared to have the capability of yielding all the results needed by the planners.

Using the DIME file, individual survey records with the street name and house number could be related to a DIME record with the same street name containing the specific house number. Using the address numbering system, a person can relate each data item to a block number. The perimeter of each block can be described as a series of line segments and the X and Y coordinates of the end points of each segment are contained in each DIME file. Using the Bureau of the Census' GRIDS system, a variety of small area maps on the scale of "one inch equals 400 feet" became a reality with data coming from both third count tapes and the department's survey data.

About 135 "neighborhoods" have been identified for study in Houston's Neighborhood Improvement Planning Program. Planners expect to study 50 of them during the next five years.

The survey questionnaire was designed to conform to the DIME file format. This facilitates the geocoding of the survey data to specific neighborhoods. To provide comparable interpretations, the survey takers were given specific guidelines for determining housing conditions.

Selected portions of their coding instructions include the following definitions:

Excellent: Indications of a high degree of pride by the owner. The rating must be agreed upon by all members of the team.

Good: A basically sound building with less than $50. . .non-structural repair needed.

Example: a broken window pane.

Minor Repair: In general, structures in need of minor repair are those structures with repairs which could easily be handled by the owner of the property. (Repairs exceed $50 but are non-structural.)

Example: paint job needed.

Major Repair: In general, repairs which would require the services of a skilled tradesperson are classified as major repairs.

Unsound: Structures, occupied or unoccupied, boarded or open, which could be dangerous to the public.

In addition to a housing form, the surveyors also had a form for non-residential structures and one for streets. Information aggregated from the three forms provides an indicator of neighborhood quality. The data categories of each type of form were designed to be consistent with data categories used by the other city departments including Public Works and Traffic and Transportation.

Using the DIME file, data collected in the survey is aggregated to the predefined study neighborhoods. The Houston City Planning Department split the DIME file into a NICKLE file to facilitate assigning the data from the same street to the left or right side blocks.

The survey input file looked like this:

```
STREET                 NUMBER
AMY                    005101   L  3611221                 0031173EMI80285
AMY                    005201   L  361122                  0031173EMI80284
AMY                    005202   R 110012001                0031173RFB00634
AMY                    005204   R 110012001                0031173RFB00635
```

5201 AMY + 5201-5299 AMY

SURVEY DIME (NICKLE)

When the two files, the survey data file and the GBF/DIME reference file, are matched by address much information becomes available.

```
 AMY                       005201    L  361122                   0031173EMI80284
215  408  3177759073662531777250736839
 AMY                       005202    R 110012001                 0031173RFB00634
215  408  3177759073662531777250736839
 AMY                       005204    R 110012001                 0031173RFB00635
215  408  3177759073662531777250736839
 AMY                       005206    R 110012001                 0031173RFB00636
4 215  408  3177759073662531777250736839
 AMY                       005210    R 110011001                 0031173RFB00637
```

Listing of addresses where major repairs were required would appear as follows:

CITY OF HOUSTON CITY PLANNING DEPARTMENT NEIGHBORHOOD IMPROVEMENT PROGRAM

MAJOR REPAIRS NEEDED NEIGHBORHOOD SETTEGAST 003 DATE 15/12/73 1

NUMBER	STREET NAME	SURVEY DATA		NEI-ID SUR-DATE, ENUM	RECORD-ID
5427	AMY	0032001		0031273RFB	00603
7805	ANGUS	0033001	JUNK VEH	0031273GIL	00254
7819	ANGUS	0033001		0031273GIL	00256
7918	ANGUS	0032001		0031273GIL	00249
7980	ANGUS	0133001	FORSALE	0031273GIL	00240
7986	ANGUS	0032001		0031273GIL	00239
7722	ATTWATER	0032001	BARN JUNK	0031273JFH	00792
7921	ATTWATER	0133001	FOR SALE	0031273JFH	00797
7941	ATTWATER	0031001	LARGE LOT	0031273JFH	00799
7949	ATTWATER	0132001		0031273JFH	00800
7962	ATTWATER	0032001	JUNK VEH	0031273GIL	00760
7982	ATTWATER	0032001		0031273GIL	00757
7986	ATTWATER	0133001		0031273GIL	00756
7989	ATTWATER	0032001		0031273JFH	00802
8009	ATTWATER	0032001		0031273JFH	00804
8105	ATTWATER	0033001	JUNK VEH	0031273	00808
8109	ATTWATER	0133001		0031273JFH	
8113		0133001		003	

(0) Single family
(1) Unoccupied
(3) Needs major repair
(3) Site condition is poor
(001) one unit

From "comments" on the questionnaire

This summary listing then becomes available:

CITY PLANNING DEPARTMENT NEIGHBORHOOD IMPROVEMENT PROGRAM
NEIGHBORHOOD SETTEGAST 003 DATE 1/10/74

	TOTAL	PERCENT
H O U S I N G	1985	100.00
TYPE		
SINGLE-FAMILY	1906	96.02
SINGLE-FAMILY CONVERTED	0	0.00
DUPLEX	26	1.30
MULTI-FAMILY	3	0.15
MOBILE-HOME	40	2.01
S - F WITH GAR APT	10	0.50
OCCUPANCY		
OCCUPIED	1764	88.86
UNOCCUPIED	221	11.13
CONDITION OF STRUCTURE		
EXCELLENT	41	2.06
STANDARD	431	21.71
NEEDING MINOR REPAIRS	1156	58.23
NEEDING MAJOR REPAIR	283	14.25
UNSOUND	74	3.72
CONDITION OF SITE		
EXCELLENT	40	2.01
GOOD	443	22.31
FAIR	990	49.87
POOR	512	25.79
TOTAL NUMBER OF UNITS	2216	111.63
UNITS IN SINGLE-UNIT STRUCTURES	1906	96.02
UNITS IN STRUCTURES W 3 OR MORE	213	10.73
N O N -- R E S I D E N T I A L	223	100.00
TYPE		
COMMERCIAL	208	93.27
INDUSTRIAL	8	3.58
[illegible]		2.24

In addition to providing data in the form of tabular output like the samples shown on the previous pages, one of the important features of the DIME file is that it enables a user to produce computer maps. This capability is present because DIME relates the incoming statistical data to its corresponding point on the ground using the state plane coordinates as locators.

Houston has already mapped some of the neighborhood data using SYMAP, and is currently implementing the Census Use Study's GRIDS computer mapping program. Both mapping systems use a standard computer printer to draw the maps with the over-printing of characters to accentuate data display.

For further information contact:

Roscoe H. Jones
Houston City Planning Department
Post Office Box 1562
Houston, Texas 77001
Telephone: 713/222-3261

Measuring the Impact of Urban Growth

Broward County is one of the fastest growing counties in the United States. With an influx of some 5,000 to 6,000 new residents a month and the addition of over 65,000 new residential units in 1973 alone, a method was needed to provide an objective measure of the impact on the county of public or private construction of facilities of all types.

The county contracted with IBM to develop the Broward Impact Zoning System (BIZS), which will be operational by November 1974.

BIZS will consist of a data base containing the county inventory files, and an information processing and retrieval subsystem. The growth impact will be measured in such areas as:

Ecology
- (a) geology - soils, minerals, topography
- (b) hydrology - water bodies, ground water, salt intrusion, aquifer draw down
- (c) pollution - solid waste, discharges

Public Facilities
- (a) utilities - water, sewer, electricity, garbage, telephone, fuels
- (b) transportation - airports, highways, right-of-ways, bike and walkways
- (c) open space - vacant land, pasture, cemetery, park, canals, lakes
- (d) education -administration, elementary, secondary, college, trade schools, buses
- (e) recreation - playgrounds, spectator sports, participation sports, park activities
- (f) safety -traffic control, street lighting, fire, police, civil defense
- (g) health care - professional office, clinics, hospitals

Finances
- (a) households - compositions, income, education
- (b) residence - size, type, density

While IBM is responsible for the construction and programming of BIZS, the county is responsible for collecting and processing the tremendous amount of data required.

The BIZS will use the GBF/DIME file as its geographic base. Currently Broward County is in the first phase of CUE, with tentative plans for updating and extending the DIME file within the year to cover as much of the 410 square mile planning area as possible. Because the original DIME file does not cover the entire county, an intensive program to develop a county-wide DIME file is underway. This project will be completed by September 1, 1974.

"An important feature of BIZS will be the Data Retrieval Programs which will allow the retrieval of data items from the data base without actually exercising the impact zoning models. This data base will be a central storehouse of important county data which has never before been assimilated into one body of information. Because of the availability and ease of retrieval of this data many applications of the data other than impact zoning can be made. The system will require much data, be relatively difficult to construct and will require continual updating. But it will be relatively simple to use. The latter is an important consideration since the system is designed to be a user oriented product. The system will automatically accept and update data to build and maintain its inventories. The computer output will indicate, quantitatively, the result of exercising the models and as an end item will show the impact in each of a list of critical concerns to Broward County.

"The inauguration of the Broward Impact Zoning System in 1975 will provide planners and decisionmakers with a new tool for evaluation of development impacts. Quantitative answers to many questions previously unanswerable, will provide a solid basis for planning and policy making. The Broward Impact Zoning System will be an innovative approach to solving the problems of growth and impact plaguing many urban areas."

For further information contact:

Sandye Whitaker
Area Planning Board
1600 S.E. 10th Terrace
Ft. Lauderdale, Florida 33316
Telephone: 305/765-5549

Locating Fire Stations

Fort Lauderdale is using the DIME file to describe the highway network for determining where to locate fire stations. This method is expected to be much faster and more appropriate than the more traditional method of using insurance grading standards to draw circles or polygons of fixed size on a map based on the concept of response distance.

The street network for the model must contain:

- Nodes
- Links, or Street Segments
- Segment Lengths
- Possible Traffic Directions
- Average Travel Speed

The non-standard speeds are added for each street segment and other variables such as street segments that are not 2-way are also modified.

The fire department personnel determine the Fire Demand Zones (FDZ's) and their focal points. The maximum response minutes, number of companies responding to the FDZ and the alarm history for each FDZ are researched and recorded for entry into the model. Information in regard to existing stations and sites of potential stations are also entered into the model for evaluation.

For each station site selected, the FDZ services are displayed, with the number of alarms per FDZ, the average response times, company strength, and backup companies.

The goals of this system and the purpose of the reports is to assist in determining:

- The least number of sites needed.
- The selection of the sites.
- The properties served by the first-due company from each site.
- The likely average response time for all sites.
- The estimated number of alarms for each site.

For further information contact:

Jo Ann E. Anthony
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33302
Telephone: 305/527-2661

Developing Employment Files

The Unified Statistical Evaluation Study (USES) was asked by the Manpower Administration of the U. S. Department of Labor to determine whether it was technically feasible to generate neighborhood profiles of job seekers. (The Manpower Administration wanted to develop a data system to assist local decisionmakers determine priorities if manpower revenue-sharing became a reality.)

The Employment Security Automated Reporting System (ESARS) was used since it is an accumulation of demographic information about job seekers. Home addresses and social security numbers of persons in the active files of five employment security field offices serving Marion County were used. Using the social security number as a file link, addresses of job seekers were added to the ESARS file. The Marion County portion of the file was then geocoded using ADMATCH and the DIME file. This appended a census tract number to the demographic data pertaining to each individual. Using a computer program, totals from the census tracts were then grouped together in different ways to form sample reports. These reports were generated for each of the nine townships of Marion County, for each of the 25 city-county council districts, and for nine selected poverty areas in which numerous agencies have an interest.

"In a relatively short period of time, you and your associates have established a solid program, spread word of the services which you provide with missionary zeal, and provided important information for a variety of programs and concerns of city government..."

Excerpted from a letter to John Rowe, Project Manager, USES Project, from Richard G. Lugar, Mayor of Indianapolis.

For further information contact:

John Rowe
Unified Statistical Evaluation Study
1622 City-County Building
Indianapolis, Indiana 46204
Telephone: 317/633-6186

Coordinating Street Construction and Maintenance

A DIME file was used to create a Street Data File containing information about both physical and activity characteristics of the street network. In addition to providing a data base for transportation planning, this will provide a central point with which organizations (city and state government, utilities) can coordinate street construction and maintenance. Status of current work on any street segment will be flagged.

For further information contact:

Claude E. McCants
Jackson City Planning Board
218 South President Street
Jackson, Mississippi 39205
Telephone: 601/354-2336

MISSISSIPPI, Jackson April 1974

Solid Waste Trucks Routing

The DIME file and ADMATCH were used for address matching to estimate volume of solid wastes generated in specific areas. ADMATCH was also used with land use codes in a Tax Assessor's Property file. Then the DIME file was used in a topological sense to optimize routing of trucks based on minimum distance to pick up assigned weights as calculated in the procedure above.

For further information contact:

Claude E. McCants
Jackson City Planning Board
218 South President Street
Jackson, Mississippi 39205
Telephone: 601/354-2336

NEBRASKA, Omaha April 1974

Implementing an On-Line DIME System

Background

The Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA), in coordination with the Omaha Public Works Department and Douglas County Systems and Data Processing, will begin during fiscal year 1974-75 to complete the installation of an operating Geographic Base/DIME File System for the Omaha-Council Bluffs SMSA. As part of this effort MAPA has designed a DIME maintenance system known as ODIS (On-line DIME Implementation System), which integrates the procedures into a unified program. In addition, ODIS allows for local maintenance of DIME in close coordination with Census Bureau standards, and will enable MAPA to effectively and efficiently make DIME operational within a minimum amount of time, at a minimum cost, and with a minimum amount of error.

ODIS has been designed as three separate but equally important elements (See figure I):

Element I	-	The Creation of a DIME Teleprocessing System
Element II	-	The Creation of a Comprehensive Geographical Data Base
Element III	-	The Actual Correction, Update, Extension, and Maintenance Program of DIME

The DIME Teleprocessing System*

The purpose of the DIME Teleprocessing System will be to provide a real-time teleprocessing inquiry and update system that can obtain information from, as well as correct, update, and maintain DIME by way of a CRT terminal. The system has been designed with inquiry, edit, and update capabilities which will allow information request by record identification number, census block, and street name.

The most important feature of the system will be its edit capabilities which should substantially reduce record review time. The system is designed with two on-line edits: a topological block chaining edit, and an address range edit.

Finally, the system's update capabilities will allow for changes to be made to any record on the file by simply entering the updated or corrected information in the proper field. The computer will then perform edit checks on the revised information to verify the correct entry of valid information. If the edit checks locate any errors within the new information, the display will be returned to the terminal for correction. If no errors are located, then the new record corrects or updates the existing master file. Additionally, the update capabilities will allow for either the deletion or creation

*This section is largely a summary of work done previously by Ed Snitily, Senior Scientific Analyst with Douglas County Systems and Data Processing.

of records. This ability to create new records will enable MAPA to continuously extend DIME beyond the existing file boundaries.

The primary benefit of the system is to provide the most efficient mechanism for locally correcting, updating, extending, and maintaining DIME. In addition, the advantages of an on-line system versus the batch environment approach to DIME are impressive in terms of reducing errors and keeping the file current. Where a batch system will probably be maintained on a monthly basis, if not longer, an on-line system can be maintained daily.

An on-line system provides a mechanism and set of procedures that enable DIME to be maintained locally as part of a long-range continuing program.

The Comprehensive Geographical Data Base

Of equal importance to the DIME teleprocessing system is the creation and maintenance of a comprehensive geographical data base to provide accurate and current source material. Thus it was felt necessary to provide an independent manual element in ODIS whose sole function was to furnish the comprehensive amount of source materials needed by DIME.

In order to supply both the cartographic and tabular information required by ODIS, the geographical data base was sub-divided into a map phase and an index phase. The purpose of each is to provide a source of primary reference material in a readily available format for insertion into DIME when required by the teleprocessing operator.

The Map phase of ODIS involves one basic function: the local correction, update, extension, and maintenance of the Metropolitan Map Series (MMS) for the Omaha-Council Bluffs SMSA. To perform this task a map catalog of existing maps, currently updated within the SMSA, and a procedure manual will be written. Other work activity to be undertaken as part of the map phase will be the address coding of aerial photos to provide basic address information required by the system.

The index phase of ODIS involves the creation of the following DIME teleprocessing entry indexes that will provide a source of consistent, standardized, and accurate address, topological, and coordinate data acceptable for data fields within DIME:

SMSA-STREET NAME AND ADDRESS INDEX

SMSA-LOCAL CODE INDEX

SMSA-TOPOLOGICAL INDEX

SMSA-COORDINATE INDEX

RECORD IDENTIFICATION NUMBER LOG

Correction, Update, Extension, and Maintenance

The purpose of this element is to provide the actual interface between the teleprocessing system and the geographical data base that will

allow for the physical correction, update, extension and maintenance of DIME.

In order to provide for an efficient and orderly approach in operating Element III, a procedure manual which describes in detail the necessary steps for the systematic review of the existing file for correction and update will be developed. This manual, in addition to outlining the above procedures, will also describe the necessary monitoring program required to maintain DIME with current changes and additions to the urban grid within the Omaha-Council Bluffs SMSA. The first priority of Element III will be to upgrade the 1970 DIME file to 1974 starting with the City of Omaha. Secondly, its subsequent function will be to maintain the file on a continuous basis.

In order to retain a degree of standardization with Census Bureau files, a monthly record of all changes to the master file shall be sent to the Census Bureau as part of Element III procedures.

Local Operation of ODIS

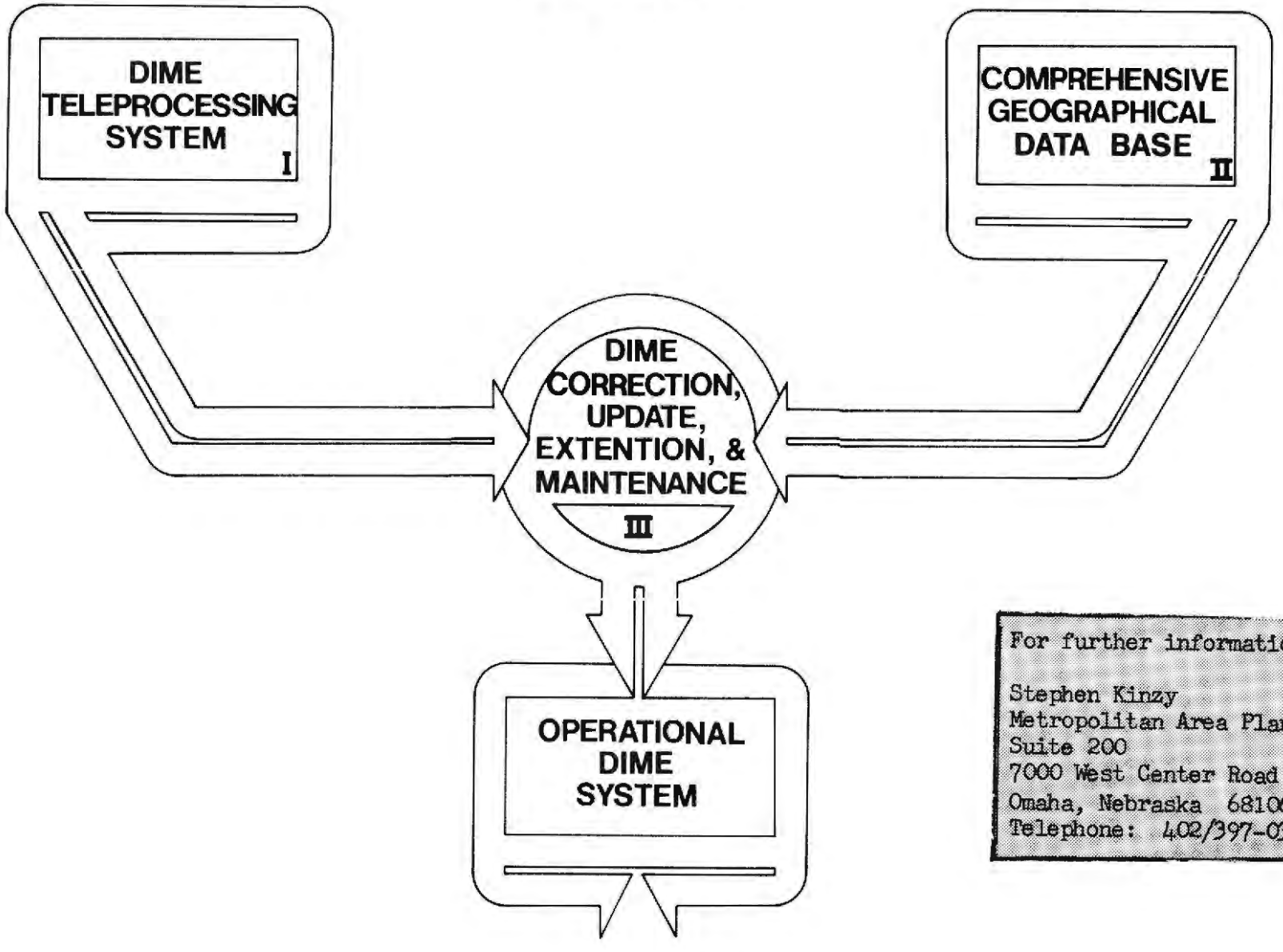
The maintenance of the topological, address, and census features of DIME will be done exclusively by MAPA whereas the addition and maintenance of local codes on the file will be done by participating agencies consistent with MAPA standards and approval. It is absolutely essential that the maintenance and supervision of the operational features of DIME be done by one agency with regional implementation ability. Multiple maintenance of DIME by various agencies would lead to a lack of consistency and standardization.

Funding problems have plagued MAPA's involvement with the DIME program from the outset, but for the first time adequate funding is being made available for the completion of ODIS and thus DIME. This change has been the result of a shift in MAPA's funding approach for DIME from HUD 701 Planning Funds to DOT Transportation Planning Funds. Also, the ability to build ODIS has been the result of local cooperation between MAPA and Omaha Public Works Department. Both agencies share similar data needs which require the use of an operational DIME system; thus agreement was reached to jointly fund the project. We hope that this kind of joint local assistance is just the beginning of a much larger cooperative venture that will lead to a regional information system structured around DIME.

With the completion of ODIS some time within 1975, MAPA hopes, in addition to the maintenance of the ODIS program, to begin standardization procedures to enhance the linking ability of local data files to DIME. Additionally, MAPA will try to provide educational programs for local governments and agencies in the use of the DIME system within their own jurisdictions.

A graphic description of the ODIS is shown in Figure 1 on the following page.

ODIS



For further information contact:

Stephen Kinzy
Metropolitan Area Planning Agency
Suite 200
7000 West Center Road
Omaha, Nebraska 68106
Telephone: 402/397-0330

Developing a Metropolitan Information System

Background

Akron has selected the GBF/DIME file as the basis for the Akron Metropolitan Information System (AMIS). The file was obtained by the University of Akron from the Northeast Ohio Areawide Coordinating Agency through the Tri-County Regional Planning Commission. DIME file corrections in Part I of the Correction, Update and Extension program were completed at the University by a staff from several agencies.

Computer time and supportive functions have been made available through the University of Akron Computer Center. The Center for Urban Studies has provided work space and supervision for the DIME correction staff.

The System

The DIME concept is fundamental to the formation of AMIS. At present there are three phases projected for AMIS:

Phase I (primary geocoding) will consist of a package which will enable a participating agency to geocode its own data records and to produce simplified tables. An example of this portion would be a hospital using patient address data, geocoding each record and producing a table listing patients served by census tract. This type of service area analysis is desired by various agencies for planning purposes. This function may be the only one used by agencies which either have a need for total file privacy or have no recognized need for additional assistance.

Phase II (data sharing) will be more involved. Participating agencies will be allowed to designate what portion of their data could be released to other participating system members; this data would only be available at the aggregate level, and the generating agency would indicate the level at which its data would be available. Present plans call for storage of information at four possible levels of aggregation: traffic/zone, zip code, census block, and census tract, which will allow for totals to be produced by civil division. In addition to locally generated data, the information on the first through fifth count census tapes for 1970 would be available within the system. An example of this portion would be the same hospital indicating that its patient address data could be released to participating agencies at the census tract and zip code levels only; the hospital could

also request data on the population and housing characteristics of its service area for further analysis. The output from Phase II will be available either in table form or in machine-readable form for input into the last portion of the system.

Phase III (computer analysis and mapping) is aimed directly at the needs of the urban planner. Anticipating that agencies will want to perform analysis of area data AMIS will provide access to various software programs. The programs for analysis that will be included are the Statistical Package for the Social Sciences (SPSS)and Biomedical Computer Programs (BMD). Several computer mapping programs for the graphic presentation of planning data will be made available. Users will have the option of using either GRIDS or SYMAP and an additional two programs developed by the University of Akron called PLOTALL and PLOT3D. PLOTALL is a user-oriented program which produces pie charts and graphs from simple data. The PLOT3D program creates three dimensional surface maps which can be viewed from any of eight compass directions. An example of this phase would be the hospital's use of GRIDS to map its service area or use of correlation programs to discover relationships between population characteristics and hospital use.

At present AMIS is projected for an IBM 375/155 with supportive machinery and a 30-inch CALCOMP plotting machine. Software, as described above, will be available. Adequate turnaround on job requests will be available which should be sufficient for most planning agency needs.

For further information contact:

Dr. Edward Hanten
Center for Urban Studies
University of Akron
243 E. Exchange Street
Akron, Ohio 44325
Telephone: 216/375-7616

Maintaining an Urban Information System

The key to the utility of any computerized urban information system is an effective and ongoing maintenance system. Such a system is essential if the basic data are to be useful in applications for decisionmaking.

The Geographic Base Index System (GBIS) of Wichita Falls, Texas, includes such a maintenance program. The Wichita Falls GBIS is updated through the routine operations of various city departments which also benefit from the data that is collected in the process. The GBIS enables the user to obtain geographically-related information identified by use of the Census Bureau's DIME file.

As a means for accessing geographically-related data the GBIS can work equally well in either on-line or off-line environments. The data that is retrieved from the file contains coordinate, or numerical identifiers for the ends of all street segments. This information enables the user to relate the data to some position along the street and the coordinate information can be used to calculate a relative geographic location for the data.

The maintenance system is based on routine operations of municipal government. The GBIS is updated in response to two general situations:

- The subdivision and development of areas within the current corporate limits.
- The annexation of new territory and inclusion inside the corporate limits.

"The objective of the maintenance system is to keep the files current, not to create complex computer programs understood by a select few."

A report entitled, "Geographic Based Urban Systems: The Wichita Falls Experience" is available from:

M. E. Gustafson
Post Office Box 1430
Wichita Falls, Texas 76307
Telephone: 817/322-5611

TEXAS, Wichita Falls April 1974

Appraising Tax Operations

Using the DIME file as a base, maps indicating recent market value changes are used to determine top priority areas for reappraisal. Comparing a series of the maps could provide the assessor with an understanding of where and how market values are likely to change in the future. Collating and displaying large amounts of geographic data may be accomplished by such a computer mapping routine.

For further information contact:

Geoffrey A. Giffin or
M.E. Gustafson
Post Office Box 1430
Wichita Falls, Texas 76307
Telephone: 817/322-5611

DIME APPLICATIONS:

Abstracts

"How can a county advance in the computer age, which is here and will be even more complicated and complex, if the local and regional county and county agencies within each state cannot afford to advance, i.e., maintain a Geographic Base File. The Geographic Base File has so many varied uses such as data banks for public agencies as well as the private sector; private data banks for large chain department stores, etc...."

Edward L. Kutevac
Director
Trumbull County Planning
Commission
160 High Street, N.W.
Warren, Ohio 44481

DIME APPLICATIONS: ABSTRACTS

Participants in the first five DIME Workshops, local users across the country and experts in the use of DIME technology have contributed reports in different styles and varying degrees of detail. Their reports have been summarized or abstracted and organized by functional area, such as education, health, and transportation. Within each functional area reports are alphabetized by state.

Functional areas included here are:

- *Mapping*
- *Education*
- *Health*
- *Human Resources*
- *Information Systems*
- *Land Use*
- *Marketing*
- *Population and Housing*
- *Public Safety*
- *Public Utilities*
- *Transportation*

CALIFORNIA, San Francisco March 1974

Computer Graphics - General

The objective is to display geocoded data on high resolution maps. The display is accomplished automatically. The DIME County Outline (DIMECO) file is the finely resolved geographic base file required to plot transportation data for the U. S. by county. As an additional test of this mapping system the same techniques were employed to map automatically the fourth count census data by census tract using the Indianapolis DIME file.

Both the U. S. maps and the Indianapolis maps were plotted on a geospace cathode ray tube plotter at 1/100th inch resolution. Maps similar to current metropolitan maps (40" x 60") containing segment, tract boundary segments, tract numbers and node numbers were produced.

For further information contact:

Marvin S. White
Census Use Study
New Federal Office Building
450 Golden Gate Avenue
San Francisco, California 94102
Telephone: 415/556-7655

CALIFORNIA, San Jose January 1974

Computer Mapping

Considerable use has been made of the Census Use Study's GRIDS program to map first count 1970 Census data, welfare cases, criminal offenses, residence of probationers, and school information.

Used under a joint study agreement with IBM Research in San Jose, applications have included land use modeling, San Jose Police calls for service and analysis for crime data.

The system has also been used for limited interactive updating of DIME file data elements, especially grid coordinates.

For further information contact:

Richard W. Renshaw
Santa Clara County Center for
Urban Analysis
19 County Administration Bldg.
70 West Hedding Street
San Jose, California 95110
Telephone: 408/299-3285

MASSACHUSETTS, Boston May 1973

Incidence Mapping

As an extension of an agency's information system, data maps were needed. By geocoding local data with the DIME file, computer maps could be presented showing geographical trends of housing deterioration, ethnic population shifts, patterns of specific disease incidence or specific project service areas. Geocoding allows all data--budgetary, demographic, and project output measures--to be filed within the same system. Virtually any data category can be mapped and compared with any other.

For further information contact:

William L. Clarke
Boston Model City Research and
Program Assistance
2401 Washington Street
Boston, Massachusetts 02119
Telephone: 617/442-1670

OHIO, Columbus January 1974

Computer Mapping

"Ohio State University has developed software for an IBM 1130 for mapping via State Plane Coordinates. We have taken the DIME file of our area and with this program have made corrections to the coordinates that were in error. As a result we were able to update approximately 6,000 of our 33,282 records."

Software and documentation for this program are available from:

Ohio State University
Department of Preventive
Medicine
410 West 10th Avenue
Columbus, Ohio 43210
Telephone: 614/422-8691

WASHINGTON, Seattle May 1973

Map Production - Double Line Maps

The objective was to produce maps of the current topography of urban areas which are an easy identification of street names and also show census geographical codes. The existing metropolitan maps which contain census geography are out of date and therefore do not show the current street pattern or names. A current DIME file was used as input to a computer program which mathematically "shrunk" the census blocks thus creating double line streets. The file was then plotted by computer and street names were inserted in the newly created "spaces" between blocks. Census codes were placed in the appropriate blocks and tracts.

For additional information contact:

Boeing Computer Services
Seattle, Washington 98104
Telephone: 206/773-8890

The following are applications of DIME technology in the area of . . . .

CALIFORNIA, Los Angeles March 1973

Education - School Desegregation

This project was undertaken to comply with a court ordered desegregation ruling with respect to Black and Mexican-American minorities. The DIME file was used as a reference file to geographically code school locations and school capacities. The school information was integrated with census data on minorities which have been corrected for private school attendance. The resulting information base was presented in the form of computer-produced maps and statistics.

For further information contact:

Vladimir Almendinger
Urban Decision Systems, Inc.
1577 South Barry Avenue
Post Office Box 25953
Los Angeles, California 90025
Telephone: 213/826-6596

CALIFORNIA, San Jose October 1973

Utilizing a School District Census

The objectives were to demonstrate the effective utilization of the 1972 school district census and relationship to other data sources and to develop a prototype system for maintaining inventories of dwelling units and student populations. The data collected in the 1972 school census was not accessible for decisionmaking or planning purposes and was becoming outdated.

Special coordinates were assigned for school census blocks and various data files were address coded. GRIDS maps were used to display the relationship between school census data and incoming and existing student data, school test scores, socioeconomic census data, police, social services, and property data by school census blocks. Prototype student count and dwelling unit count systems were developed. School attendance areas could also be adjusted to achieve racial and ethnic balance among schools.

For further information contact:

Franklin M. Lockfeld
County of Santa Clara
19 County Administration Building
70 West Hedding Street
San Jose, California 95110
Telephone: 408/299-3285

Facility and Program Planning

The objective was to assist a county junior college in planning for future development. This was accomplished by using an ACG as a reference file to which block centroid coordinates had been added. Block coordinates were added to the addresses of the existing student body. (The DIME file for the area was not yet in useable form.)

Maps displaying the number and location of students possessing relevant characteristics were produced. These data had been collected from student files. Travel times from residence zones to existing and proposed facility sites were calculated using a model which had been developed for evaluating alternate transportation plans.

Census tapes were then used to develop information on the county's total college-age population. These data were used to develop a regression equation predicting the future enrollment in the college from each residence zone. The college used the resulting information to plan for program development and facility expansion.

For additional information contact:

Metropolitan Washington Council
of Governments
1225 Connecticut Avenue, N.W.
Washington, D.C. 20036
Telephone: 202/223-6800

FLORIDA, Miami April 1974

Profiling Student Characteristics

A community college has three campuses in the metropolitan area. To determine the type of programs which should be offered at each of the branches, the college enrollment files were ADMATCHed using the DIME file to provide the college with a profile of student characteristics. The data was then displayed graphically using SYMAP.

For further information contact:

Joseph Malone
Community Improvement Program
Metropolitan Dade County
2000 Courthouse
Miami, Florida 33130
Telephone: 305/377-5201

INDIANA. Ft. Wayne April 1974

Assigning Students to School Districts

Student registration files from the largest school district in the area were ADMATCHed to determine the number of students by block and census tract.

The results are being used by the school district for allocating pupils to schools and for determining both short- and long-range planning needs.

In the future, the district plans to use the DIME file to locate students eligible for bus service.

For further information contact:

Dennis M. Strohbusch
Three Rivers Coordinating Council
One Main Street
Fort Wayne, Indiana 46802
Telephone: 219/423-7309

Allocating Education Resources

The objective of the project was to establish funding priorities for each school based on the percent of children on Aid to Families with Dependent Children (AFDC).

The approach is straightforward if a machine-readable student file and AFDC file are available. The files are address matched and the assignment of AFDC pupils is made using the school pupil file with attendance information. Little if any ambiguity exists when true firm attendance zones are utilized. Uncertainty exists for systems where considerable mixing from different attendance zones occurs. This uncertainty can be reduced by further checking on age, house number, etc.

An approach like this was used in Boston for 100,000 pupils and over 30,000 AFDC records to prepare data for all schools to assign these priorities. The approach is low cost and easy to use if the data is machine-readable. A similar approach is now under consideration by several school systems to augment income data available from the fourth count of the 1970 Census for Title I resource allocation.

For further information contact:

John Krasnakevich
Kindler Associates, Inc.
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963

MASSACHUSETTS, Cambridge

April 1974

Analyzing Pupil Transportation Needs

The objective of the project was to develop and implement a procedure for collecting and preparing student data and road networks for operating automated pupil transportation routing and scheduling.

The pupils have to be located (assigned) to bus stops and bus routes prepared for the pick-up and delivery of students. The technique considers school grade structure, bus capacity, population growth, traffic conditions and safety.

The output provides a description and graphic display of the routes by listing intersections; list of pupils by bus; bus passes for pupils; forms for state reporting requirements for reimbursement, and maintenance schedule reports.

The input data requires school locations and characteristics; pupil data; a road network (prepared directly or by modifying a DIME file) with travel conditions (average speeds, one way streets, divided highways, turn directions, etc.); bus stop locations; vehicle characteristics; maintenance reports and procedures.

This approach has been developed during the past two years and utilized in various stages in New Jersey, Rhode Island, and New York.

The basic approach utilizes a modified DIME file with address matching to locate pupils. The DIME modification is for travel data. Similar techniques though not as comprehensive have been utilized in Toronto, Canada, and by other school agencies using a vehicular scheduling package (VSP). The current approach discussed here is more detailed and considers true transportation networks and also takes into account multiple routes for a bus and safety considerations. A similar approach could be used for other transportation applications.

For further information contact:

John Krasnakevich
Kindler Associates, Inc.
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963

Allocating Students to School Zones

A method was needed for assigning students to school districts. The Clark County School District (CCSD), the Clark County Regional Planning Council (CCRPC) and the Nevada State Highway Department (NSHD) cooperated to update the Las Vegas DIME file as a basis for this project.

The Student Zoning System for the Clark County School District geocodes and reports on all students in the school district. The areas of greatest detail are contained within the boundaries of the Las Vegas SMSA.

The System will:

- Automate the identification and tabulation of students by geographic area.
- Maintain a geographic base file.
- Identify students to geographic areas in the following steps:
  - Standardize the spelling and content of student addresses.
  - Match the standarized student addresses to the geographic base file and extract geographic identifiers.
  - Append the geocodes to the student master records.
- Have the capability to:
  - Select students by a combination of demographic factors and geographic identifiers.
  - Print listings, tabulations, and mailing labels for selected students by geographic area.
- Create and maintain a geographic area school assignment file. The data in the file will be used to:
  - Identify school zones to individual student records.
  - Identify school zones to geographic areas.

- Print a street address school assignment directory.
- Print a report of students attending school out of zone.

- Provide a base for the development of other zoning applications, such as computer mapping, graphics and student to school allocation (zoning) models.

- Provide a base for the use of student geographic identification in other systems, such as Promotion and Transfer, School Bus Scheduling, and Indexing.

The project cost approximately $20,000. This included five hand-picked college students, four NSHD employees, and four CCSD employees who worked together updating the file to a useful condition so that the CCSD computer department could begin ADMATCHing students with the DIME file. The project took approximately six months.

Plans are in progress for coordinating data needs with other agencies such as the County Data Processing Department, the Regional Planning Department of the Clark County Area, the County police and fire departments and others to provide a Central Data Bank to meet the many complex needs of local government.

A copy of the report entitled "Clark County School District, Las Vegas, Nevada: Student Zoning System Procedures Manual," January 1974, is available from:

Barbara L. Van Norsdall or
Jack Schofield
Clark County School District
2832 East Flamingo Road
Las Vegas, Nevada 89121
Telephone: 702/736-5286

NEVADA, Las Vegas May 1974

School Siting and Districting Studies

At the present time the Clark County School District planners are working with the Census Use Study to develop a series of computer tools which can be used by school planners in 11 school siting, districting and transportation problems. The project calls for the development of mapping, coordinate retrieval, automated district boundary generation and student transportation assignment components to help school planners use DIME technology.

For further information contact:

Dr. Charles Neeley
Clark County School District
2832 East Flamingo Road
Las Vegas, Nevada 89121
Telephone: 702/736-5286
or
George Leyland
City University of New York
Department of Sociology
33 West 42nd Street
New York, New York 10022
Telephone: 212/832-8471

The following are applications of DIME technology in the area of . . . .

CALIFORNIA, Los Angeles
GEORGIA, Atlanta
NEBRASKA, Lincoln and Omaha

April 1974

Monitoring Social Indicators

A Federal health-related agency sponsored a research project to design a program for monitoring the social and health status of neighborhoods. The focus of the study was on communities with neighborhood health centers. The objective was to develop spatially identifiable measures that could monitor past, present, and future trends that might indicate deficient health care.

Using DIME technology, data from administrative records that are collected annually are geocoded to census tract. Correspondence tables were developed to relate data from the 1960 Census to the 1970 Census. Starting in 1966 such data was obtained and included vital records of birth and death, reported morbidity, adult and juvenile probation records, and mental health data.

Through a series of statistical procedures, which included simple descriptive statistics and complex uses of multiple regression and factor analysis, a set of summary and specific measures were displayed to indicate current overall status and longitudinal trends in social and health conditions for areas the size of census tracts.

This methodology is also being applied to the aged in a recently initiated program for the Administration on Aging of the Department of Health, Education and Welfare. The project is designed to examine the health status and well being of the elderly.

For further information contact:

John Deshaies
Census Use Study
U.S. Bureau of the Census
Washington, D.C. 20233
Telephone: 301/763-7094

Relocating Hospital Facilities

A task force of county health personnel was established to assess the needs of a community hospital facility destroyed during a recent earthquake. The project results were to suggest answers to a set of interrelated questions:

1) Should the hospital be rebuilt?
2) If so, where should it be located? and
3) What kind of services should be provided?

Socioeconomic change characteristics from the U. S. Census of Population and Housing for 1960 and 1970 were aggregated by census tract to conform to variously defined local communities. Summary reports reflecting these communities were generated by geocoding local administrative files with the DIME file. These data were used to indicate health and health-related problems for the defined areas. Files utilized were birth, death, reportable diseases, drug abuse, probation, welfare caseload, and income estimates of the local areas. Inventories of private physicians and hospitals were also included. Because the data gathered and the plans suggested were to be used in conjunction with a series of public hearings, statistical tabulations were prepared from the summary data. The product was a fact book which, when coupled with public involvement, brought about a proposed adoption of a hospital site.

For further information contact:

Ronald Dowd
Department of Hospitals
Los Angeles, California 90033
Telephone: 213/225-3115

FLORIDA, Miami April 1974

Calculating Infant Mortality by Race and Age of Mother

The population of the metropolitan area exhibits extremes of age distribution. The purpose of the project was to show the concentration of high infant mortality rates by race and age of mother. Vital statistics records are processed using the DIME file and ADMATCH to obtain birth and death statistics by tract. Age adjusted death rates are also calculated.

For further information contact:

Joseph Malone
Community Improvement Program
Metropolitan Dade County
2200 Courthouse
Miami, Florida 33130
Telephone: 305/377-5201

MICHIGAN, Detroit April 1974

Planning Medical Facilities

The Southeast Michigan Council of Governments has used the GBF/DIME file to code a registry of cancer patients to census tract and block. This information will be used to undertake studies on the environmental impact of cancer etiology and to determine the need for and location of radiation treatment centers.

For further information contact:

Charles Bradley
Southeast Michigan Council of Governments
810 Book Building
Detroit, Michigan 48226
Telephone: 313/961-4266 x54

MASSACHUSETTS, Boston

April 1974

Planning and Evaluating Health Facility Needs

The objective was to develop and implement a health information system with health facility location and characteristics with client data for use in planning and evaluation of health facility need.

Many health records are not machine-readable nor are they maintained in a central location. Earlier projects usually required the design of an approach to obtain and prepare the basic data for each facility. Using an ACG or DIME file the characteristics of facilities and clients are then keypunched and address matched. If an ACG or DIME file is not available the matching can be done by other means. The data organization for these earlier projects was designed to meet the need served. The data would then be analyzed using statistical packages like Datatext. SPSS(Statistical Package for Social Sciences) and BMD (Bio-Medical Computer Package), and results summarized in tabular form and with computer graphics (i.e., maps showing hospital drawing area).

In the Boston area the emergency room records for all hospitals were sampled, coded, keypunched and address matched for an analysis of emergency room utilization and determination of service areas by diagnosis, mode of transportation, etc.

A similar project was conducted for the 17 hospitals in the South Shore and Cape Cod area of Massachusetts. In this project the data (approximately 120,000 records) was machine-readable, but maintained by three different agencies utilizing different equipment and coding procedures for diagnosis codes. The data was processed and combined into a comprehensive system for analysis and planning. The Massachusetts Department of Public Health is now extending this approach and with the Massachusetts Hospital Association is expected to prepare a state-wide system.

For further information contact:

John Krasnakevich
Kindler Associates, Inc.
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963

NEW MEXICO, Albuquerque April 1974

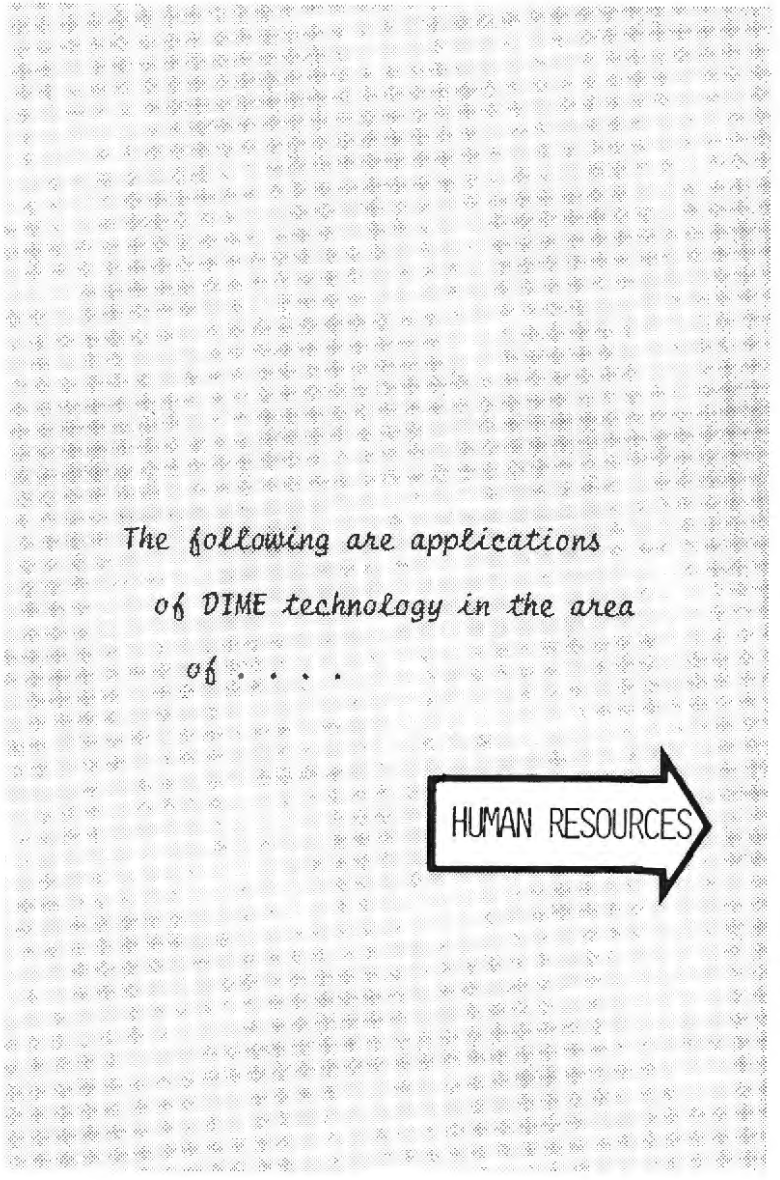
Health Services Delivery and Planning

Hospital patient records, containing information on residence, length of stay and type of illness, are geocoded and aggregated by small area. Summaries are provided to the health planning council for determining specific health problems by geographic area.

Motor vehicle registrations are also geocoded and aggregated by small area and compared to the hospital data to determine the need for a clinic in areas which require health care but lack sufficient transportation to take advantage of health facilities elsewhere.

For further information contact:

Dale G. Glass
Middle Rio Grande Council of Governments
505 Marquette Avenue, N.W.
Albuquerque, New Mexico 87101
Telephone: 505/243-2819



CALIFORNIA, San Diego October 1973

Determining Employment by SIC Codes

The objective was to assign traffic analysis zones to the employment data file in order to determine employment totals by Standard Industrial Classification (SIC) Code for each traffic analysis zone. The employment data file was matched to the census tract/street index file. The geocoded employment data file was matched to the split DIME reference file. The resultant data would then serve as input to the Urban Development Model for forecasting employment.

For further information contact:

Robert B. Hogan and Ross Hall
Comprehensive Planning Organization
Security Pacific Plaza, Suite 524
1200 Third Avenue
San Diego, California 92101
Telephone: 714/233-5211

INDIANA, Ft. Wayne April 1974

Allocating Social Services

Using the DIME file, welfare records were geocoded. Maps were produced which showed the distribution of welfare recipients throughout the city.

This file will eventually be used for geographically assigning case loads, for mapping movements of welfare recipients within the city and for allocating social services.

For further information contact:

Dennis M. Strohbusch
Three Rivers Coordinating Council
One Main Street
Fort Wayne, Indiana 46802
Telephone: 219/423-7309

MARYLAND, Baltimore March 1974

Determining Employment by Small Areas

The objectives were: 1) providing a set of comprehensive small area indicators for the destination of journey-to-work and other employment-related trend patterns; 2) providing a data base for the implementation of an operational model of future metropolitan development patterns; and 3) providing much of the base data required for an analysis of short-run locational changes in the metropolitan economy.

The DIME file was used as a reference file to code geographically addresses of employees and number of employees to census tract and regional planning district. Summary statistical tables were produced indicating employment by census tract and planning district.

For further information contact:

Frederick Westerfeld
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202
Telephone: 301/383-5867

NEW YORK, New York May 1973

Reduced Fare Program for Elderly

The objective was to initiate a project which would allow for increased incentive on the part of the elderly to use public transportation facilities. A file of names and addresses of persons eligible for participation in such a system was matched on address and geocoded with various geographic data (census tract, XY coordinates). Mailing labels were created from matched addresses and half-fare certificates were issued. Maps, showing the distribution of elderly by census tract were also produced.

For further information contact:

Ronald L. Maken
New York City Department of City Planning
2 Lafayette Street
New York, New York 10007
Telephone: 212/566-0465

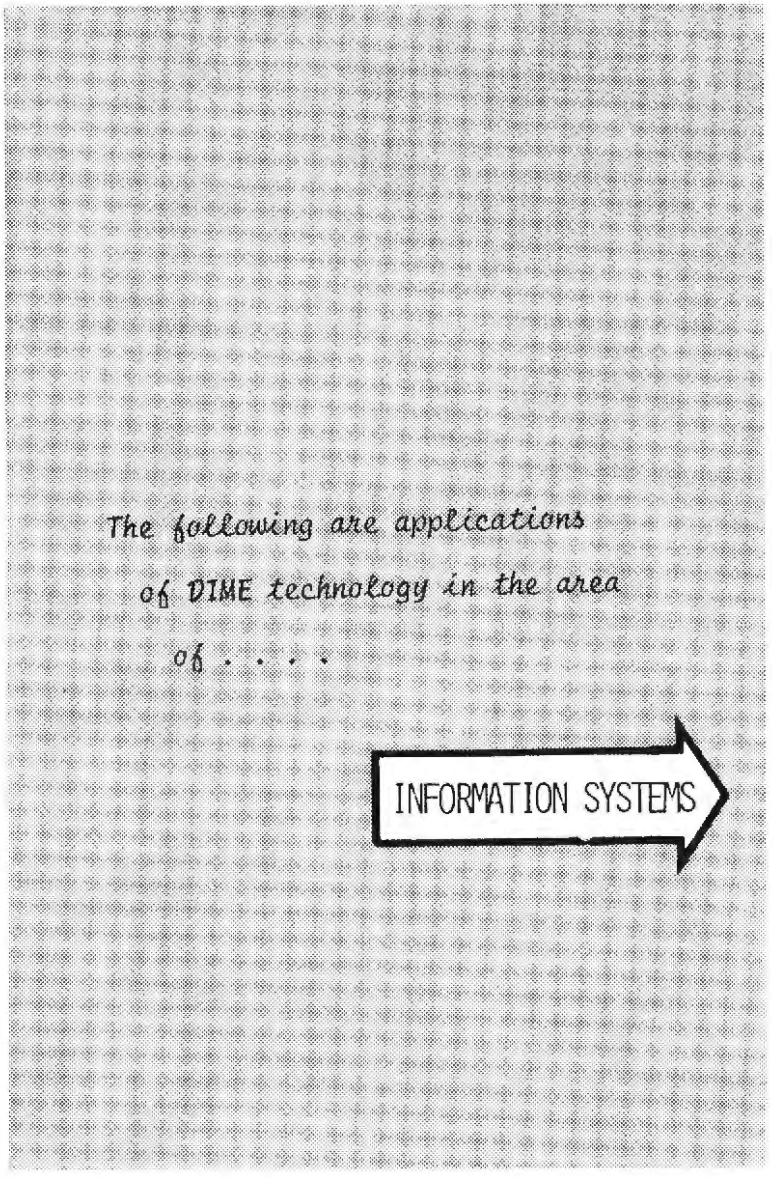
SOUTH CAROLINA, Columbia January 1973

Developing Neighborhood Profiles

"We have used the ADMATCH program on the Columbia, S. C., GBF and there was approximately a 90% match. We used ADMATCH for Law Enforcement and Neighborhood Analysis studies and a census tract and enumeration district street directory. We are presently using it in Drug Abuse and a Patient Origin Study. We will continue to use it in law enforcement applications..."

For further information contact:

James Burwell
Central Midlands Regional
Planning Council
1125 Blanding Street
Columbia, South Carolina 29201
Telephone: 803/779-8300



INDIANA, Indianapolis

February 1974

Building a Planning Information System

An information system was needed that would support overall planning activities in Marion County. The system that was developed was based on three separate but mutually supporting programs. The key program for long range planning is the Address Coding Guide. The second set of programs, independent of the Address Coding Guide, are designated Independent Computer Programs and support various ongoing planning activities. The third set of programs called Information Locators manage in-house data resources to make them easy to locate and use.

Selected Products of the ACG

- Street Location Guide - an alphabetical listing of all streets in Marion County with location information. Users include the Marion County Sheriff, the Indianapolis Fire Department, etc. Emergency vehicles are dispatched to an address based on the Street Guide.
- Area Street Guide - also an alphabetical listing of streets but one including addresses and streets by planning areas and political boundaries. Users include the township assessors, councilmen, local hospitals, Indiana University and the Health and Hospital Corporation.
- Geocode List - a numerical listing of all census tracts and blocks in Marion County. The listing shows in which of fifteen geographical boundaries each tract and block lies. The major user of the Geocode List is the planning staff.

ACG Dependent Programs

These programs produce the following data:

- Housing Starts/Losses
- Single Family Vacancy Data
- Section 235 Housing Data

Independent Computer Programs

- Socioeconomic Programs
- Battery 360 (library of programs used for transportation planning)
- Panel File
- Capital Improvements
- 1970 Census Tapes
- GRIDS
- Population Projections
- Bio-Med Computer Programs

Information Locators

- Data Item Locator
- Research Library
- Monodex-a key work library search program
- In-house Data Resources Catalog

Through the Department of Metropolitan Development, the city of Indianapolis began developing a Planning Information System in late 1970 and now has operational programs which are increasing the planning capabilities of local governments.

"I think, unfortunately, the Bureau has not taken enough credit for the extensive GBF program . . . Without the impetus from the Bureau we would still be struggling with small area data retrieval . . ."

Excerpted from a letter from Bernard W. Wilcox, Principal Planner, Department of Metropolitan Development, City of Indianapolis.

For further information contact:

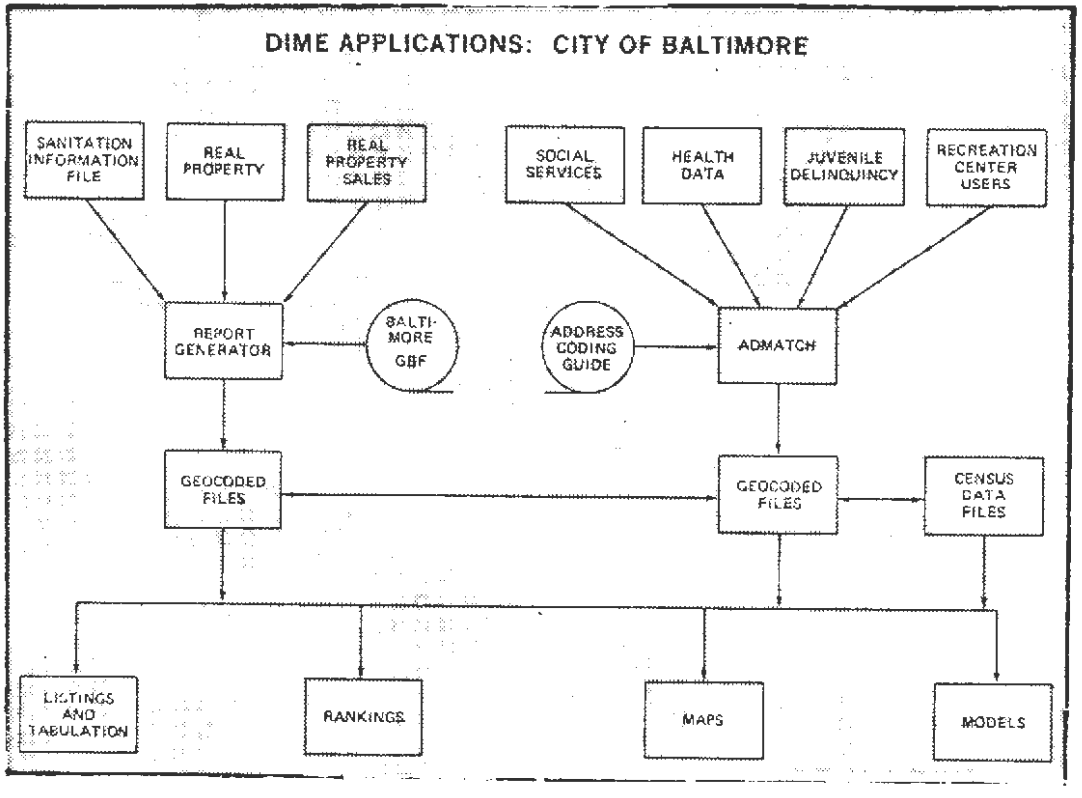
Bernard Wilcox
Department of Metropolitan Development
Division of Planning and Zoning
2041 City-County Building
Indianapolis, Indiana 46204
Telephone: 317/633-3434

MARYLAND, Baltimore

March 1973

Comprehensive Geocoded Data Base

This flowchart graphically demonstrates the comprehensive approach taken by the city of Baltimore to develop a geocoded data base of considerable magnitude and flexibility. Existing computer programs, software, and reference files were used as much as possible, but it was necessary to develop numerous computer programs and a reference file (Baltimore City Geo-base) for use with files that were incompatible with the ACG. This made it possible not only to geocode to census tract but to aggregate data to various geographical districts, i. e., police reporting areas, health districts, etc.; but more important it provided the link between otherwise incompatible city data files.



For further information contact:

James W. Johns
Baltimore City Department
of Planning
Research Section, 8th Floor
222 East Saratoga Street
Baltimore, Maryland 21202
Telephone: 301/369-4335

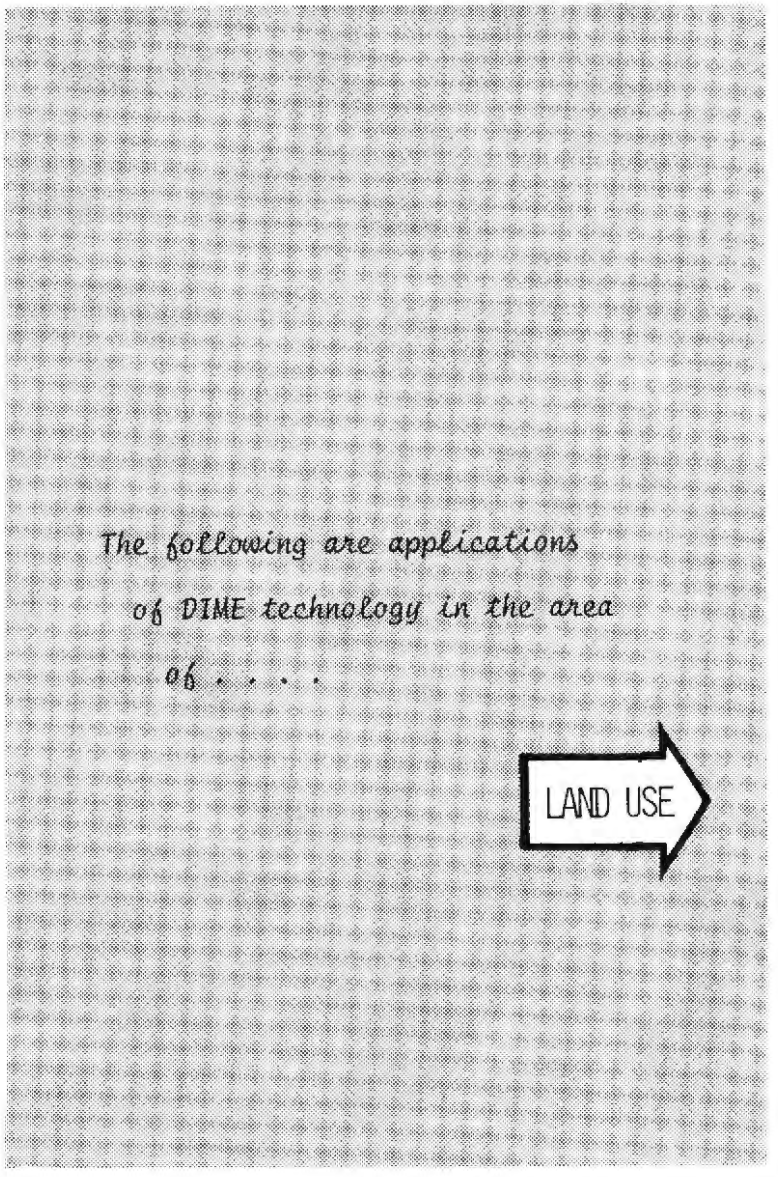
MICHIGAN, Detroit April 1974

Developing a Manual Geocoding Capability

The Detroit Census Tract Advisory Committee in cooperation with the Southeast Michigan Council of Governments has used the DIME file to print and publish a tract level address coding dictionary for the Detroit SMSA. This printed guide is used for clerical encoding of addresses by those agencies who do not have a sufficient volume of geocoding to warrant use of computer programs, and by those agencies which prefer to geocode at the intake stage to guarantee confidentiality of service records.

Copies of these reports are available from:

Patricia Becker
Community Development Commission
City of Detroit
350 E. Congress
Detroit, Michigan 48226
Telephone: 313/224-2560



CONNECTICUT, Stamford — May 1973

Land Use Information System

The objective was to create a system for area profiles and simulation. The land use file containing zoning, lot size, land use, condition, and address data for each parcel was geocoded. Public safety records and other local data were integrated into the DIME File as well. An area profile of local data cross-classified by census socio-economic data was then possible.

For further information contact:

Matthew J. Brady
Planning Department
429 Atlantic Street
Stamford, Connecticut 06901
Telephone: 203/348-5841.

OKLAHOMA, Oklahoma City — April 1974

Land Use

The DIME file and utility company listings were used to monitor land use development in the region.

Meter listings were geocoded and aggregated to traffic zones. Annual comparisons in the number of dwelling units provide an indication of growth in a particular zone or where new development has taken place.

For further information contact:

Philip Waring
Association of Central Oklahoma Governments
221 Plaza Court Building
1100 Classen Drive
Oklahoma City, Oklahoma 73103
Telephone: 405/235-9651

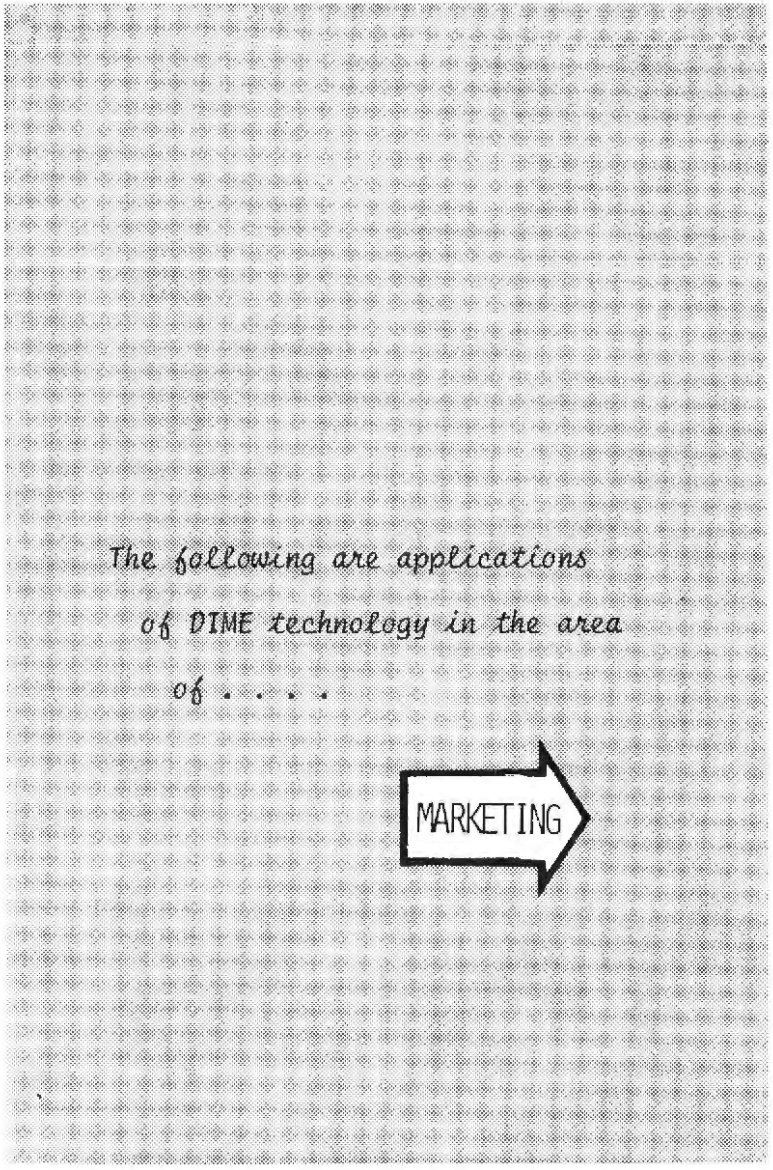
PENNSYLVANIA, Philadelphia February 1974

Planning Land Use

"In a recently completed application, the GBF was used as a master unit listing in the development of a census block-level land use file. Census blocks were created for the non-urbanized portion of the Philadelphia, Pennsylvania, and Trenton, New Jersey, SMSA's. These new units were appended to the GBF to produce a region-wide Extended Reference File. This file served as the receptacle for the land use data. It is expected that the new block units will eventually be expanded with segment, address and coordinate data..."

For further information contact:

Walter K. Johnson
Delaware Valley Regional Planning Commission
Penn Towers Building
Philadelphia, Pennsylvania 19103
Telephone: 215/207-3000



MASSACHUSETTS, Arlington May 1973

Market Analysis - Penetration Studies

The objective was to determine the potential demand for bank services by small geographic area. This was accomplished by using the DIME file as a reference file in geographically coding the addresses of bank patrons to census tract.

This information was integrated with information from the census to produce cross tabulations of number of accounts by type of account by branch bank with tabulations of socioeconomic characteristics of the population.

For further information contact:

Urban Data Processing
24 Mill Street
Arlington, Massachusetts 02174
Telephone: 617/643-6760

MASSACHUSETTS, Arlington May 1973

Market Analysis - Economic Surveys

The objective was to determine potential sites for industrial and commercial establishments. This was accomplished by using the DIME file as a reference file for the assignment of coordinates to addresses of commercial and industrial establishments. The addresses of the establishments were obtained from the Yellow Pages, Polk City Director, Dun and Bradstreet, National Business Lists and special services. The resulting establishment file with coordinates was used in the production of automated maps which show the distribution of establishments by standard industrial classification.

For further information contact:

Urban Data Processing
24 Mill Street
Arlington, Massachusetts 02174
Telephone: 617/643-6760

NEW YORK, New York April 1974

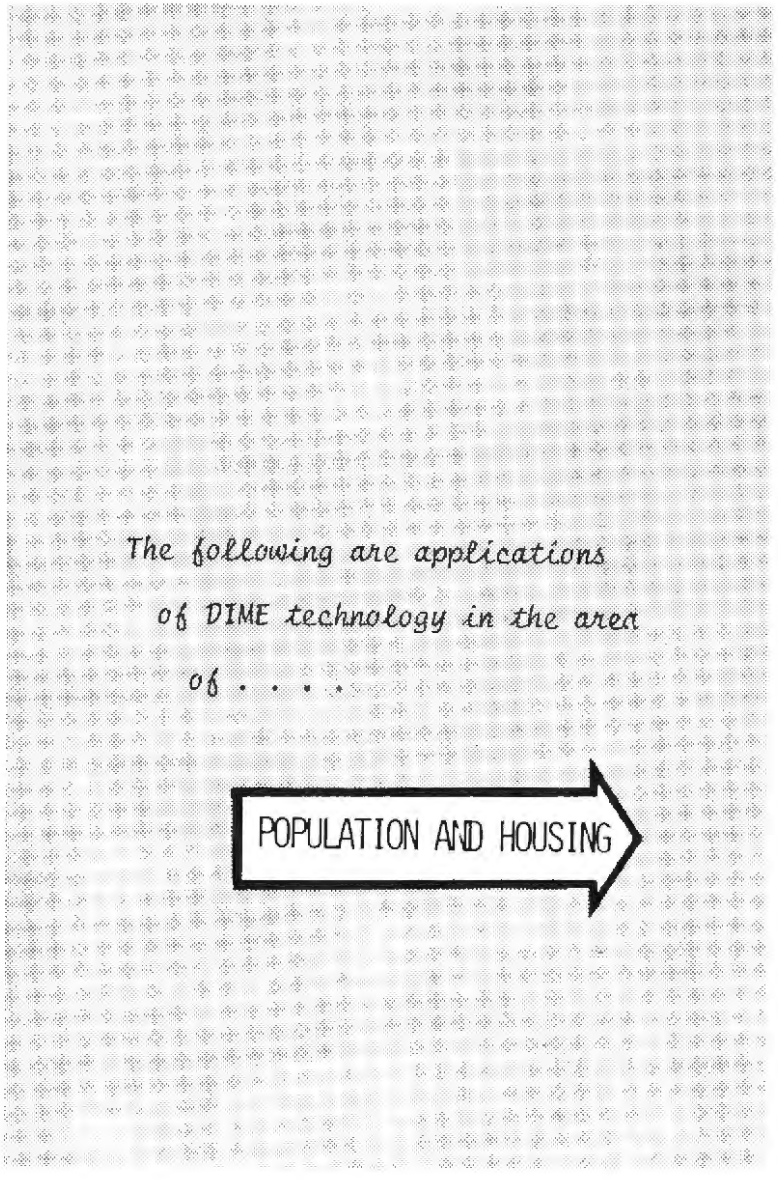
Evaluating Franchise Areas

The problem was to set up several optimum franchise areas in the Borough of Brooklyn so a business executive could examine alternative areas for franchise bidding and monitoring the development of retail sites. Franchise areas were designed on the basis of potential income from subscribers and local markets and the cost of establishing the franchise. Once this information was known, it was possible to determine the potential income from various franchise areas.

Census socio-economic data at the block and block group level was used. A listing of retail establishments was ADMATCHed to add XY coordinate information and the data aggregated to the block and block group. These files were used as input into models for estimating income. Maps and reports were produced which enabled decisionmakers to review the alternative franchise areas.

For further information contact:

George Leyland
City University of New York
33 West 42nd Street
New York, New York 10010
Telephone: 212/790-4283



CALIFORNIA, San Diego October 1973

Obtaining Current Population Estimates

The objectives were two-fold: (1) to update population estimates and (2) to provide an accurate profile of utility users in the San Diego Area.

Electric meter data was ADMATCHed to census tracts to give an indication of vacancy rates. The number of vacant units was subtracted from the total number of units in the census tract and multiplied by the average size of the household at that level. The resultant information is updated on a six-month basis and is used by the local planning organization to supplement population estimating procedures.

The geocoded and regularly updated customer files provide the company with an indication of consumption and when linked to census data at the tract level, provide customer profiles for market analysis.

For further information contact:

Robert B. Hogan or Ross Hall
Comprehensive Planning Organization
Security Pacific Plaza
Suite 524
1200 Third Avenue
San Diego, California 92101
Telephone: 714/233-5211

COLORADO, Colorado Springs December 1973

Redistricting Voters

"The first application of the local geocoding capability was initiated to assist in the process of reassigning 63,000 voters to new precincts, which were redrawn because of redistricting requirements. Through the use of ADMATCH, each voter's address was matched to the geographic base file, which was updated to reflect the changes in voting precinct boundaries, and the appropriate precinct appended to each voter registration record. It took ADMATCH about four hours of computer time to do a job that was estimated to involve many man-months to do manually. The cost savings to the Elections Department for redistricting by computer geocoding is felt to have offset the initial cost of developing the computer programs."

For further information contact:

Dave Bamberger
Pikes Peak Area Council of Governments
27 East Vermijo
Colorado Springs, Colorado 80903
Telephone: 303/471-7080

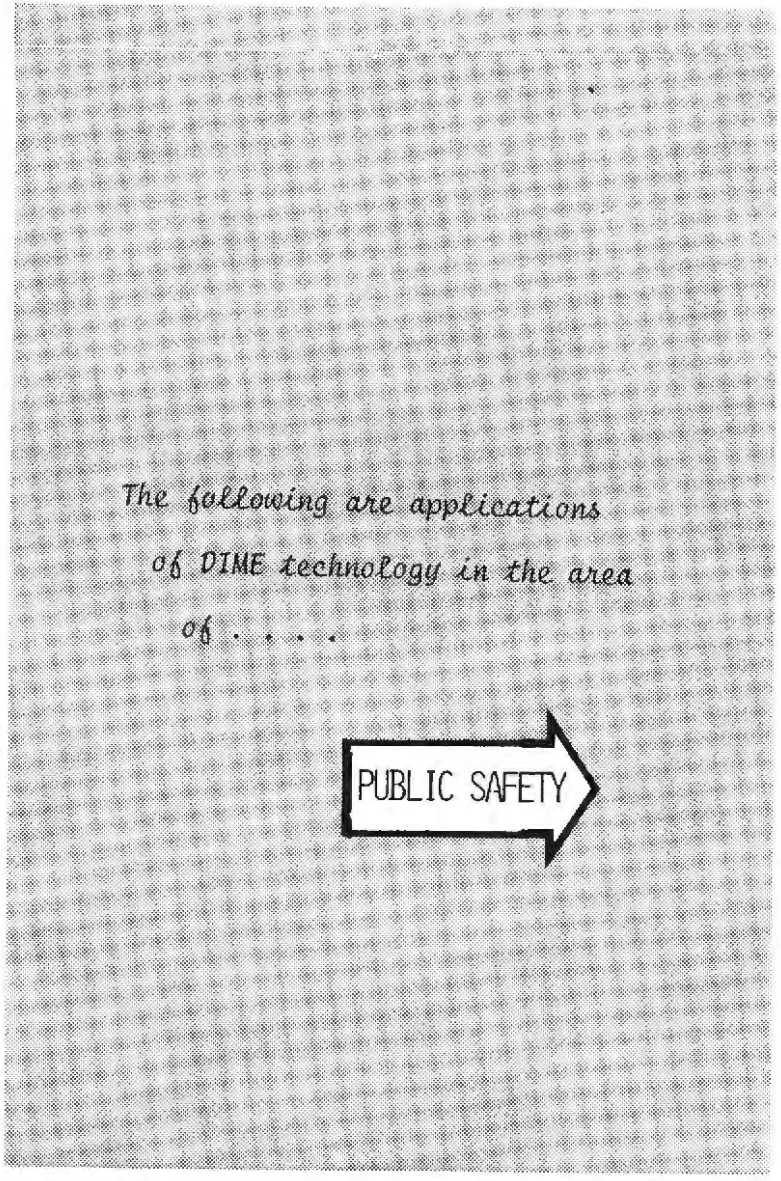
MASSACHUSETTS, Springfield May 1973

Profiling Housing Conditions

The object was to provide housing inspectors with profile information of the areas they were inspecting. A real estate file of assessments, housing inspections and building permits was matched to the DIME file. Other local data (school, police, health) as well as census socioeconomic data were integrated using the DIME file. A "state-of-the-neighborhood" profile resulted, informing the inspectors about what to look for in the neighborhood to be surveyed.

For further information contact:

James T. Controvich
City Planning Department
Room 226, City Hall
Springfield, Massachusetts
01103
Telephone: 413/736-2711



CALIFORNIA, San Jose

October 1973

Assigning Police Beat Areas

Beat patterns had become outdated due to extensive urban development in new areas.

The objectives were to develop a beat system that equitably distributed the work load, recognized physical and geographic constraints and provided the capability for resource allocation within districts composed of groups of beats.

Special "Beat Building Blocks" or area units were defined to be wholly within a beat boundary. Based on the DIME file, beat building block boundaries were digitized. Calls for service were coded, ADMATCHed and grouped according to beat building blocks. U.S. Census data and CAPER file (see next page) data were also made available for the beat units. GRIDS maps were produced for the calls for service data. The police officers were able to group clusters of beat building blocks and examine patterns of aggregated data. A 40 beat pattern was achieved which satisfied such requirements as equal work load, communication control, supplementary patrol cars and geographic access at relatively low cost in terms of office and computer time.

For further information contact:

Franklin M. Lockfeld
County of Santa Clara
Center for Urban Analysis
19 County Administration Bldg.
70 West Hedding Street
San Jose, California 95110
Telephone: 408/299-3285

CALIFORNIA, San Jose October 1973

Analyzing Crime Patterns

The objective was to create a file for crime analysis. Data contained in police offense reports--location, time, type of offense, victim/offender characteristic information, etc.--were extracted, coded and keypunched for confidentiality and the XY coordinates and census tract, as found in the DIME file, were added. The resultant CAPER file--Crime Analysis Program, Evaluation and Research--is used by the Santa Clara Criminal Justice Pilot Program. By focusing on a specific high incidence target area, on specific premises and property targets within this area, a pattern will be developed which can be evaluated statistically and used to create counter plans to reduce burglaries.

For further information contact:

Katherine Howard
Santa Clara Criminal Justice
Pilot Program
106 East Gish Road
San Jose, California 95112
Telephone: 408/299-2087

CALIFORNIA, San Jose March 1973

Assigning Adult Probation Cases

The objective was to assist in determining a geographic assignment of probation officers. Probation officers were assigned to cases on an alphabetic basis. Alternative service areas had to be developed to minimize movement patterns between areas. A 20% sample of case loads were address matched and line-printer (GRIDS) maps were produced showing a distribution of cases and the movements of probationers over a 2-year period.

An analysis was developed to summarize the number of case moves into, out of and within census tracts that might be grouped into service areas. Codes were also assigned for serious offenses, felonies, drunken driving, etc., to enable analysis and GRIDS display by offense type. Alternate service areas and/or selective service units with appropriate data descriptions were devised.

For further information contact:

Franklin M. Lockfeld
County of Santa Clara
Center for Urban Analysis
19 County Administration Building
70 West Hedding Street
San Jose, California 95110
Telephone: 408/299-3285

GEORGIA, Atlanta January 1974

Creating a Census Tract Index File

"For address matching, most of our users need only the capability of geocoding data to the census tract level. We have created a Census Tract Street Index file by aggregating DIME records to the tract level by zip and place codes and manually adding as much as possible of the remainder of the five counties. This is also available as a printed publication from our agency.

"Applications in geocoding by address matching are quite varied in our agency but include criminal offenses, offender and victim analysis; as well as regional employment studies, satellite clinic planning and retail and banking facility planning..."

For further information contact:

Trina S. Jackson
Atlanta Regional Commission
Suite 910
100 Peachtree Street
Atlanta, Georgia 30303
Telephone: 404/522-7577

MASSACHUSETTS, Boston March 1973

Police Record Keeping

The objective was to design and develop a batch system to locate and assign police statistical identifiers to activity data.

The city of Boston has over 300,000 incidents per year and the staff had to identify the location of each incident and to assign the statistical identifiers. The work was tedious and subsequently erroneous.

A project was started in 1970 to develop a batch system to locate (geocode) the incidents and assign statistical identifiers from a modified DIME File. The matching system developed could work on addresses, intersections, and special locations.

For further information contact:

John Krasnakevich
Kindler Associates, Inc.
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963

MASSACHUSETTS, Boston April 1974

Simulating Police Patrols

Purpose: to develop a geographic model of the Boston reporting areas, car sectors, and districts and to use the model with actual emergency call history to test alternative patrol procedures.

The DIME File for Boston was augmented with police statistical identifiers and reduced to a DIME File on a reporting area basis. This base map was then used with activity data to test the patrol procedures. The project was initiated in late 1970 and completed in 1972.

For further information contact:

John Krasnakevich
Kindler Associates, Inc
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963.

MASSACHUSETTS, Boston April 1974

Police Dispatching

Purpose: to develop an on-line system for use in accessing a DIME file to determine the best vehicle to dispatch for emergency calls.

Many area police departments utilize students, cadets, or civilians in their "turrets" to receive calls and identify primary vehicle for dispatch. Hard copy flip-files are often used for the identification of car sectors. In addition, new command control systems using on-line terminals require address verification.

In 1970 a project was started for the Boston Police Department to create a DIME file with police statistical areas and to develop a prototype on-line system for dispatching by address, intersection and special locations (e.g., Fenway Park).

For further information contact:

John Krasnakevich
Kindler Associates, Inc.
14 Story Street
Cambridge, Massachusetts 02138
Telephone: 617/491-4963

NORTH CAROLINA, Charlotte

June 1973

Resource Allocation for Disaster Planning

Based on research into disaster characteristics, preparedness planning and relevant computer technology, a prototype system of computer support for natural disaster preparedness planning was designed by the Defense Civil Preparedness Agency (DCPA) of the Department of Defense.

The system, called Computer-Assisted Natural Disaster Operations (CANDO) System, utilizes DIME geographic base files, Census and local data. The starting point of the CANDO project was the previous DCPA developments in the use of the DIME files. The Network Allocation of Population to Shelters (NAPS*) model was developed and moving into an initial deployment mode as the project began. It was found that with minor modifications, this system could be adapted to the similar task of allocating persons whose homes would be affected by a disaster to temporary shelters.

The project prototype, which is designed to analyze and report on the makeup of a potential disaster impact area and to allocate homeless to a temporary shelter, was tested using actual data for Charlotte, North Carolina.

"The purpose of the project was to develop computer-assisted planning techniques based on the use of DIME geographic base files because they are rapidly becoming the standard methodology for geocoding local data in metropolitan areas."

The U.S. Army Corps of Engineers flood area maps were acquired and flood boundaries identified and transferred to the Census Bureau metropolitan maps to identify a flood disaster area in terms of GBF/DIME segments. A computer program CIRCUM was used to produce a listing of all street segments in the disaster area. These segments were matched against a local land use parcel file and census third count file.

A detailed summary report of the potential disaster area was produced and included such

*See page 65 for a brief description of NAPS.

things as the locations of critical facilities (hospitals, schools, office buildings, etc.), summaries of the numbers of people affected, and types and values of buildings in the impact area. An Allocation to Temporary Shelter Module was utilized to determine those areas within the disaster boundary where damage to homes would occur and where the population should be allocated to which temporary shelter facilities.

The project team has recommended the implementation of the system in Knoxville, Tennessee. If the system operates successfully in Knoxville, deployment will be recommended to other cities.

A copy of the Defense Civil Preparedness Agency contract report entitled "The Computer-Assisted Natural Disaster Operations (CANDO) System Prototype/Final Report" is available from:

Michael J. Kevany or
John W. Musselman
Research Assistant Professors
The University of Tennessee
Graduate School of Planning and
Research Center
Olney, Maryland 20832
Telephone: 301/926-5547

NAPS

The Network Allocation of Population to Shelter (NAPS) is a system developed by the System Development Corporation for the Census Use Study under contract to the Office of Civil Defense (now the Defense Civil Preparedness Agency) of the Department of Defense. The system assigns the population to their closest fallout shelter, up to the shelter capacity limit. It uses the DIME file to determine the shortest path to the shelter and uses the third count census summary tape to establish population demand.

The NAPS model formed the basis of the Computer-Assisted Community Shelter Planning (CACSP) system based on DIME. Potential transfer of this capability from the nuclear to the natural disaster environment was evident. As a result the Computer-Assisted Natural Disaster Operations (CANDO) System project was undertaken and uses the NAPS allocation capability.

WASHINGTON, Tacoma January 1974

Developing a Police Statistical Reporting System

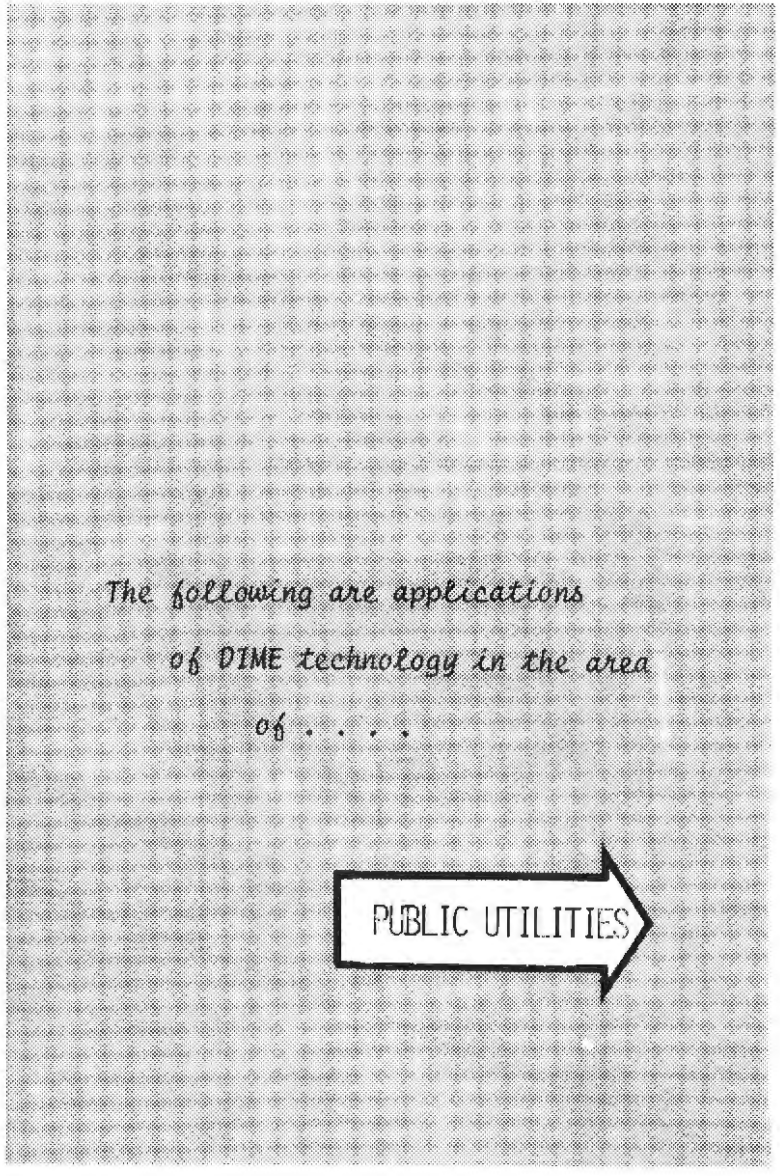
The city of Tacoma, Washington Police Department had for years been hand posting traffic violation and accident data on pin maps. Having heard of DIME files and their possible applications in geocoding data, the Police Department inquired whether a computerized method of location and reporting could be devised.

They wanted a system to match street intersections to a DIME file node, assign various geocodes for reporting and XY coordinates for display purposes. An on-line system was considered which would provide neighborhood profiles to officers being dispatched to various areas. Regular printed summary reports and graphs were also desired.

A private consultant developed a pilot system known as SAFETAR to address the Police Department needs. The system creates an intersection file from a DIME file, a matching program to provide the necessary geocodes, and reporting programs which generate summary data.

For further information contact:

Tom Byron or Jan Solga
Puget Sound Governmental Conference
216 First Avenue South
Seattle, Washington 98104
Telephone: 206/464-7594



CALIFORNIA, Los Angeles October 1973

Analyzing Gas Usage of Low Income Households

The objective was to determine the extent of gas usage by low income households for Los Angeles County. A special file for low income households was created from master billing records and matched against the L.A. DIME file to append census tract and block codes. The accounts were then aggregated by census tract and the frequency was compared to mean income per tract as reported in the Census of Population and Housing.

For further information contact:

E.J. Patterson
Southern California Gas Company
830 South Flower Street
Los Angeles, California 90017
Telephone: 213/689-4213

D.C., Washington March 1973

Projecting Demand for Sewage Treatment Facilities

The objective was to convert future year forecasts of households and employment into demands for sewage treatment facilities to aid in developing realistic capital improvement programs and to evaluate alternative development plans. Using an ACG, estimates of households, employment and land use were geocoded to census tract and integrated with information from rainfall curves to produce GRIDS maps indicating sewage generation and cross-tabulation of sewage treatment facilities by plant.

For further information contact:

Metropolitan Washington Council of Governments
1225 Connecticut Avenue, N.W.
Suite 201
Washington, D.C. 20036
Telephone: 202/223-6800

Routing Refuse Vehicles

Facing a rising demand for services, Fort Lauderdale has adopted a number of modern management methods to ensure economic and efficient delivery of municipal services.

One aspect of the program is the development of a refuse vehicle routing system in cooperation with Public Technology, Inc. (PTI) and other participating cities -- Clearwater, Fort Lauderdale, St. Petersburg, and Tallahassee, Florida; and New Orleans, Louisiana. (The following chart outlines the major project phases, key activities within each phase, and the participating agencies.)

Project Phase	Activities	Participating Departments
Initial Refuse Vehicle Routing Project	Conference between PTI and participating cities	PTI and participating cities
Acquisition of DIME file and Related Programs	An agreement between Fort Lauderdale and Broward County Area Planning Board	Broward County Area Planning Board
	Guidance from local agencies familiar with DIME	Dade County Community Improvement Program
Update DIME	Correct error edit listings; verify and correct census maps	Project Team and Broward County Area Planning Board
Data Collection	Select test area. Collect road speed, direction, and number of collection passes. Abstract socio-economic data from the U.S. Census Bureau Block Statistics Report	Sanitation Data Processing
	This is to be facilitated by computer program to abstract necessary data (population, dwelling units, no. of occupants) being developed by our data processing staff	
Testing & Analysis	Test programs using pilot data from member cities	PTI
Final	Collect data for remainder of city and implement routing system	Fort Lauderdale

Fort Lauderdale's extensive canal system presents a unique challenge to vehicle routing. It is anticipated that our utilization of a computerized refuse vehicle routing program will result in improved routing, equalized crew work loads, and generally more efficient refuse service at the lowest possible cost to our taxpayers.

Essential to the refuse vehicle routing project is the update and use of the Dual Independent Map Encoding (DIME) file and its associated programs. (See Figure 1 for a diagram of the use of DIME in the Refuse Vehicle Routing System.)

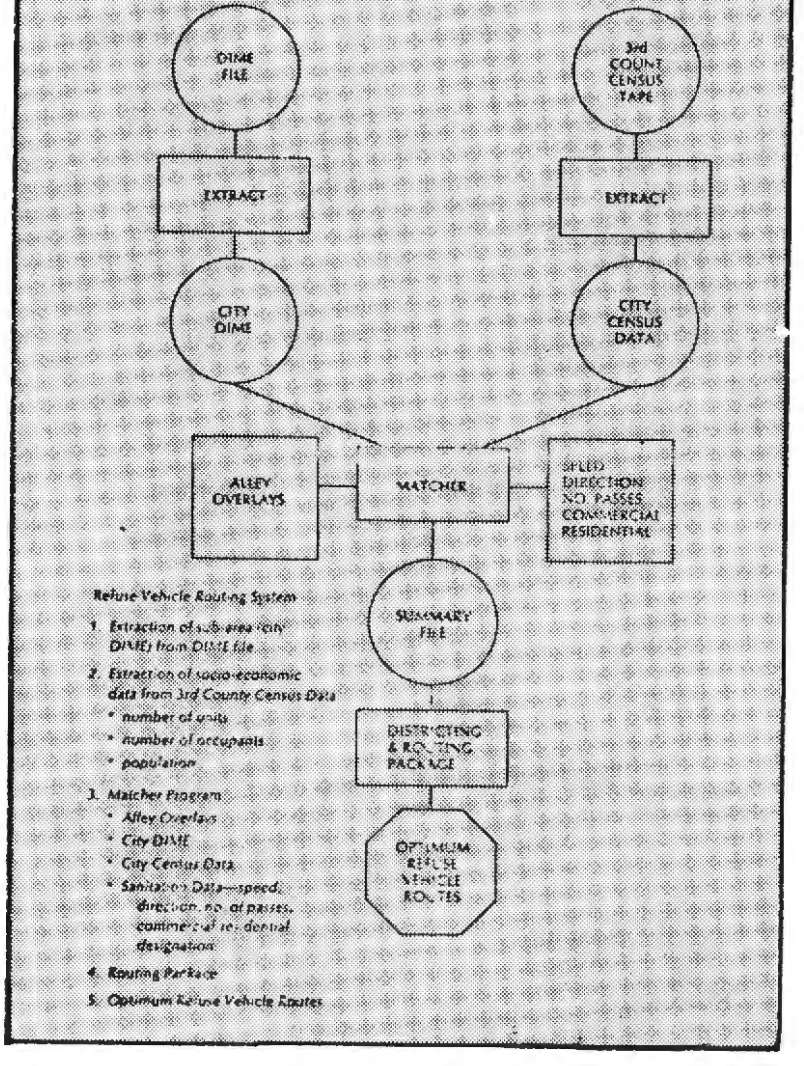
Utilizing the DIME file and its associated programs makes a transferable vehicle routing package possible without the attendant cost of developing a street segment network file. Throughout the refuse vehicle routing project, in-house talent and available tools such as DIME were utilized to minimize costs.

Benefitting from Dade County's (Miami) Community Improvement Program experience in updating its DIME file, higher level personnel have been used throughout the update of Fort Lauderdale's portion of the DIME file.

A 70-block area of southeast Fort Lauderdale was designated as the refuse vehicle routing test area. The same area previously served as a test area for Fort Lauderdale's mobile cart refuse container system (see Public Management,

FIGURE 1

REFUSE VEHICLE ROUTING SYSTEM



October, 1972). The test area is a manageable environment in which to test the results of the refuse vehicle routing system.

Linking street network data to collection data was facilitated by a computer program developed by the city's data processing staff. Geographic information for the test area was abstracted from the DIME file. The data entered manually included road speeds, road direction, the number of pickup passes, and residential/commercial designation.

Also included were socioeconomic data (number of units, number of occupants, and population) for each block in the test area. This was obtained from the Census Bureau's Block Statistics Report. Additional programs will be developed to abstract the socioeconomic data from the Census Bureau's Third Count tape when the data for the remainder of the city are coded.

The necessity for employing modern management tools such as refuse vehicle routing packages has been created by the sanitation department demands for higher salaries, a fair distribution of work loads, citizen demand for quiet, and timely refuse pickup, and environmental demands for cleaner neighborhoods and efficient solid waste disposal.

For additional information contact:

John Stunson
Assistant City Manager
Fort Lauderdale, Florida 33301
Telephone: 305/527-2661

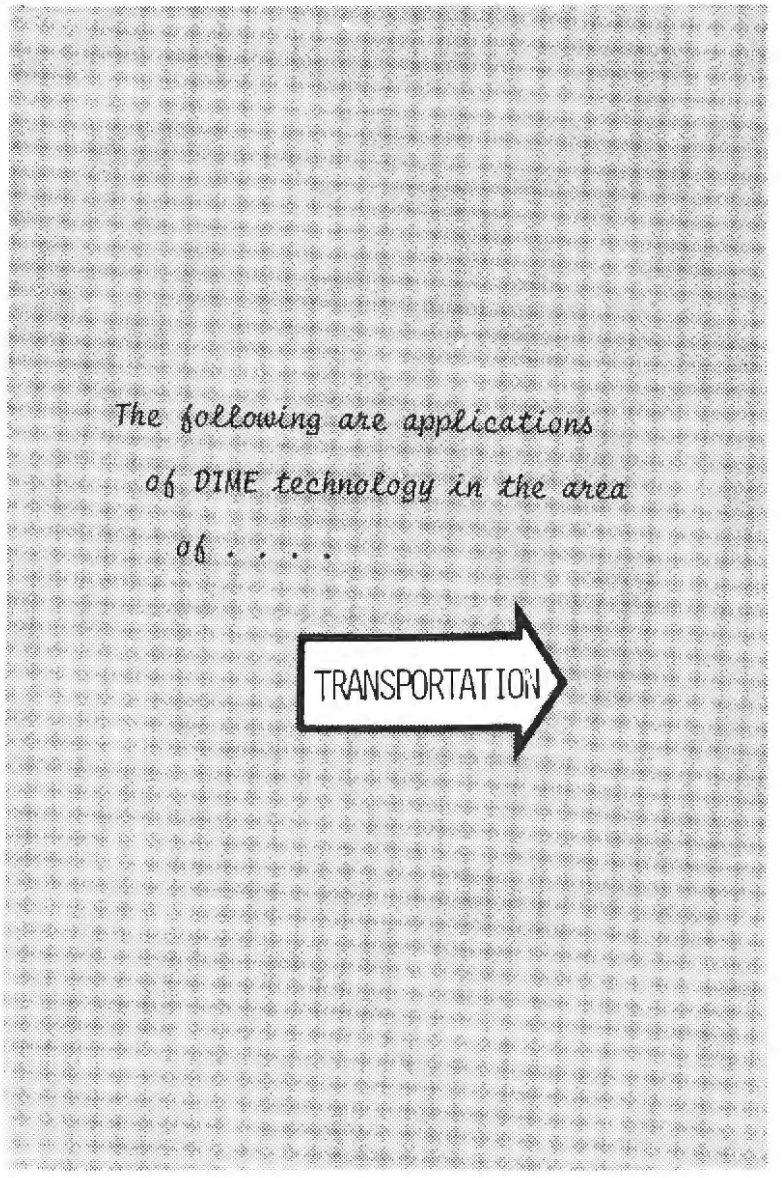
OKLAHOMA, Oklahoma City October 1973

Projecting Demand for Electric Power

A utility company needed to update their dwelling unit tabulations to assist in projecting needs for electricity. By matching dwelling units with the DIME file they were able to obtain a distribution of residential electric meters.

For further information contact:

Philip Waring
Association of Central Oklahoma Governments
221 Plaza Court Building
1100 Classen Drive
Oklahoma City, Oklahoma 73103
Telephone: 405/235-9651



Planning Urban Transportation

"There are two main purposes for which this agency has used the DIME file for each of our six SMSA's.

"The first purpose was to modify the file so that we might have a handy tool to aid us in both coding and checking the equivalency table provided to us by the Bureau of the Census. This table was the means by which we obtained the Urban Transportation Planning Package. The equivalency printout table provided the SMSA code, state code, city code, tract code, block number, and a blank space for us to code the traffic zones for which we wished to obtain census data. From computer programs developed by the Bureau of Urban Planning, using the DIME file as input, we developed a printout which listed the census tracts, block numbers, and assigned traffic zones. This enabled us to code easily the desired traffic zone number on the equivalency printout table.

"The second purpose was through a continuous need of updated street code indexes for each of the six study cities. Computer programs were developed to obtain individual street block-side records from the DIME file. This newly created version of the DIME file is referred to as a "Street Code Index" and is used as a reference file or index to street names, census tracts, enumeration districts, block numbers, street link node numbers, block-side address ranges, and traffic zones. The file may be printed out and sorted on any of these fields.

"We have also produced a condensed version of the Street Code Index which contains only the street name, address range for streets across the entire traffic zone, and traffic zone number. This file was planned to be a "reference file" for input into ADMATCH, an address matching system, but so far we have lacked the time and personnel to gain very much experience with the system. The South Alabama Regional Planning Commission is in the process of applying the system to this "reference file" furnished to them by this agency."

For further information contact:

John Skinner
State of Alabama Highway Department
11 South Union Street
Montgomery, Alabama 36104
Telephone: 205/269-6576

ALABAMA, Montgomery January 1974

Measuring Impact of a Transportation Plan

"One of our present applications of the DIME file or a product of the DIME file is a method by which we are relating the census data from the Urban Transportation Planning Package to our transportation study for each of our local areas.

"We have developed a computer program which reads the output tape from a special run of the FMTUTP Program, reformats the selected socio-economic data, and calculates percentages for each group, i. e., percent of households owning no autos, one auto, and two or more autos, respectively, for each traffic zone.

"This program is being used to determine socio-economic characteristics of traffic zones to analyze the effect of the transportation plan on special groups that we have identified with this program."

For further information contact:

John L. Skinner
State of Alabama Highway Department
11 South Union Street
Montgomery, Alabama 36104
Telephone: 205/269-6576

ARKANSAS, Little Rock January 1974

Coding Vehicle Registration

"The Arkansas Highway Department has utilized the ADMATCH program to code vehicle registrations to enumeration districts within the Little Rock city limits. Analyses of the results indicate a match rate of 70 percent. The major factor contributing to the high mismatch rate was the inconsistences in the spelling and names of streets in the data file. Correcting street names in the data file would have produced a much higher match rate.

"METROPLAN has recently listed and manually coded to traffic zones all commercial and industrial establishments within the urbanized area. Nearly all of these establishments are located on streets listed in the existing DIME file."

For further information contact:

John S. Harrington
METROPLAN
Continental Building
100 Main Street
Little Rock, Arkansas 72201
Telephone: 501/374-7531

CALIFORNIA, Ventura — December 1973

Building a Transportation Gravity Model

"The DIME file, without corrections or updates, has been used to ADMATCH taped county employment statistics to the existing GBF. For the active file a match rate of 60% was obtained. The fairly low rate resulted from two main causes:

1. Post Office Box Addresses
2. Employment sources with mailing addresses outside of the GBF

"The matched files were used extensively as inputs into a transportation gravity model, as part of a comprehensive transportation study. Unmatched files were processed manually. Time for the entire ADMATCH process was around four man-weeks..."

For further information contact:

Howard Buchalter
Ventura County Planning Department
52 N. California Street
Ventura, California 93001
Telephone: 805/648-6131

COLORADO, Denver — January 1974

Conducting an Origin and Destination Study

"In 1971 the Denver Regional Council of Governments, in conjunction with the Joint Regional Planning Program, conducted an Origin and Destination Study within our region. During this study we used the Address Coding Guide/ADMATCH System to geocode trip characteristics to a census tract. For the area of the region that is covered by the ACG/DIME file, our rate of match was approximately 80%, with a computer cost of approximately $.03 per address."

For further information contact:

Gary D. Johnson
Denver Regional Council of Governments
1776 South Jackson Street
Suite 1100
Denver, Colorado 80210
Telephone: 303/758-5166

Geocoding Motor Vehicle Registrations

"The Pueblo Area Transportation Study (PATS) had access to a previously developed ADMATCH/OS system. . . Our input to ADMATCH/OS is an address coding guide (ACG).

"Motor vehicle registration was the first file to be processed. A tape of the motor vehicle registration for the entire county was obtained from the Department of Revenue. A total of 86,300 records were on the file. After the Preprocessor a total of 81,500 records were accepted and 4,800 records were rejected. The accepted records were processed by the Matcher program with 51,800 records matched and 29,700 records rejected. This yielded an overall matching rate of 60%. The rejected records were manually allocated to census tracts. It should be noted that only those records, with addresses inside the study area, were matched to census tracts. After the manual allocation, a total of 75,800 records were matched, so that the effective matching rate of 70% was realized. The estimated cost including salaries and computer cost was about $3,000. The estimated man-days for completing this task was about 60."

For further information contact:

Dave Ruble, Jr.
Colorado Division of Highways
Planning and Research
4201 E. Arkansas
Denver, Colorado 80239
Telephone: 303/757-9342

D.C., Washington May 1973

Input to Gravity Models

The objective was to develop small area estimates of registered vehicles by small areas. The data was used as input to a transportation gravity model for freeway location planning. The state motor vehicle registration file was sampled and the records corrected from variable length to a fixed format. Using an ACG, the records were then geocoded to census tract and subsequently coded to traffic zone through a correspondence table.

For further information contact:

Census Use Study
U.S. Bureau of the Census
Washington, D.C. 20233
Telephone: 301/763-7533

D.C., Washington March 1973

Transportation - Impact of Rapid Transit Stations on Surrounding Areas

The objective was to develop data to support a rapid transit station impact study. This was accomplished by using a block centroid file to select blocks within given radii of the proposed stations and then tabulating data on population, land use and public safety for the areas surrounding each station. A DIME file was used as a reference file for assigning block coordinates to data collected from local tax assessors' files, police files and the third count census tapes. The resulting tabulations were transmitted to local planners for use in the impact study.

For further information contact:

Metropolitan Washington Council
of Governments
1225 Connecticut Avenue, N.W.
Washington, D.C. 20036
Telephone: 202/223-6800

INDIANA, Ft. Wayne April 1974

Matching Vehicle Registrations to Traffic Zones

The objective was to provide a methodology for obtaining information on future transportation needs. A transportation study was undertaken as part of the 1980 Transportation Plan.

Using the DIME file, motor vehicle registrations were matched by address and allocated to traffic zones. The results were used for updating transportation models and for verifying transportation modeling and simulation techniques.

For further information contact:

Dennis M. Strohbusch
Three Rivers Coordinating Council
One Main Street
Fort Wayne, Indiana 46802
Telephone: 219/423-7309

MAINE, Portland March 1973

Locating Traffic Accidents

The objective was to identify dangerous street intersections in terms of traffic accidents. This was accomplished by using the DIME File as a reference file in the assignment of geographic coordinates to a traffic accident file. The resulting traffic accident file with coordinates was used to produce a computer map of incidence symbols indicating the locations of accidents.

For further information contact:

Thomas Skolfield
Model Cities
City Hall, Room 202
389 Congress Street
Portland, Maine 04111
Telephone: 207/775-5451

MISSISSIPPI, Jackson February 1974

Improving Traffic Safety

To aid in finding solutions to traffic congestion and accidents, data such as automobile registrations, school enrollments, employment, etc; are used in transportation computer models. Some socio-economic surveillance variables used in traffic generating equations are aggregated to traffic analysis zones using the DIME File and ADMATCH.

For further information contact:

Claude E. McCants
Jackson City Planning Board
218 S. President Street
Jackson, Mississippi 39205
Telephone: 601/354-2336

NEW MEXICO, Albuquerque April 1974

Improving Traffic Safety

The City of Albuquerque is anxious to make improvements in its road network to improve traffic safety. To give an indication of where accidents occur the DIME file is used to code motor vehicle accidents to specific intersections. The record contains the direction and the distance from the intersection.

The results allow an analysis of accidents by geographic area.

For further information contact:

Dale G. Glass
Middle Rio Grande Council of Governments
505 Marquette Avenue, N.W.
Albuquerque, New Mexico 87101
Telephone: 505/243-2819

NEW MEXICO, Albuquerque April 1974

Transportation Planning

Several local data files are being geocoded in connection with a transportation information system. This pilot project is funded by the Federal Highway Administration to implement an information system to serve the Urban Transportation Planning Process.

As a means of estimating future employment, the Employment Security file was ADMATCHed and provided a summary of employment by SIC code for each geographic area. Commercial and industrial electric customer records were geocoded to determine the number of businesses in each area and to account for employees not covered in the previous file.

Assessor's records and motor vehicle and driver's license records are also geocoded and are input into the information system.

For further information contact:

Dale G. Glass
Middle Rio Grande Council of Governments
505 Marquette Avenue, N.W.
Albuquerque, New Mexico 87101
Telephone: 505/243-2819

OKLAHOMA, Oklahoma City April 1974

Projecting Future Transportation Needs

The State Employment Security File contains the addresses of employers by SIC code and includes the number of persons employed by each individual firm.

Through the DIME file, employment by traffic zones was determined. Additionally, employment figures were divided into two classifications to give the number of employees in retail establishments and in other industries.

The results are used as an input into the trip generation equation for forecasting future transportation needs.

For further information contact:

Philip Waring
Association of Central Oklahoma Governments
221 Plaza Court Building
1100 Classen Drive
Oklahoma City, Oklahoma 73103
Telephone: 405/235-9651

Planning Transportation Networks

The Delaware Valley Regional Planning Commission inherited a local coordinate system from its predecessor, the Penn-Jersey Transportation Study. "Link nodes" in the Highway Simulation Network, the Transit Network and the Route and Intersection File were described in terms of the local coordinate values and all former data had been coded to this system.

Correlation tables were developed between the "link nodes" in the Penn-Jersey Transportation Study Files and the nodes in the GBF/DIME file. GBF/DIME node values were then substituted for the "link node" values. Computer maps have been produced to check the correctness of the Highway Network System.

Node values are also recorded in meters (Universal Transverse Mercator) for use once conversion is made nationally to the metric system.

This conversion from the former system to GBF/DIME has improved capabilities to do computer mapping, to calculate distances and areas and to forecast highway traffic volume.

For further information contact:

Roger Smith
Delaware Valley Regional
Planning Commission
Penn Towers Building
1819 J.F. Kennedy Boulevard
Philadelphia, Pennsylvania 19103
Telephone: 215/567-3000

WASHINGTON, Tacoma January 1974

Analyzing the Results of an Origin and Destination Survey

"PSGC has just completed a pilot study to determine the effectiveness of using DIME files to assign census tract and block information to responses generated by a transportation origin and destination survey. This project was done in cooperation with the Washington State Department of Highways.

"Since the survey responses lacked zipcode information, addresses were matched on the basis of place codes. We further decided that only those addresses which were suspected of falling within the City of Tacoma (place code 1280) would be ADMATCHed. This last decision was made due to the difficulty of posting place codes to addresses in smaller incorporated places and in unincorporated places.

"Thus, approximately 1500 data records were coded to place code 1280 and these formed the data file to be matched against the Tacoma DIME file. The ADMATCH program was run at 100%, 99% and 98% accept levels with the results as shown below:

Total Data Records = 1483

Accept Level (%)	Records Matched	% of Total Records
100	860	58.0
99	981	66.1
98	1061	71.5

"Analysis of the successful matches showed a very good level of accuracy was obtained. A 10% sample of the 860 successful 100% matches was checked and only 3 records showed an incorrect tract and block assignment. Each of the 121 data records which matched at 99% but not at 100% was checked and only 1 record showed an incorrect tract and block assignment. It was further noted that all 4 of the errors found via this check were the result of address range errors in the GBF/DIME, and would be successfully matched after the ADDEDIT corrections have been inserted.

"Analysis showed that a total of 397 data records were rejected due to the following reasons:

Reject Code	"no match on"	Number Records	% of Total Sample
02	State/place Code	32	2.2
03	Street title	196	13.2
04	House Number Range	169	11.4
		397	26.8

"Further examination of these 397 rejects indicated that over 65% were the result of an erroneous place code on the data record. In other words, the mailing address indicated they were within the Tacoma city limits when in fact they were not. Various reasons caused the balance of these 397 rejects; including common data errors (misspelled street name, general

syntax errors, etc.) and deficiencies in the GBF/DIME (new streets to be included in UPDATE, etc.).

"If we hypothesized that all these 397 rejects were data coding errors, an optimum match rate table could be constructed by removing them from the data file. Using this logic, a revised match rate table would show the following:

Total data records = 1086 = (1486-397)

Accept Level (%)	Records Matched	% of Total Records
100	860	79.2
99	981	90.3
98	1061	97.7

"Construction of two match rate tables in this fashion should not be construed as an attempt to simply boost match rates. Rather the first table accurately reflects the number of records which were assigned tract and block using the DIME file and, obviously, any record not matched had to be hand coded. But, the second table is significant because it provides the user far more information as to the reason for the unsuccessful matches. In other words, the range determined by the two tables more accurately reflects the condition of the DIME file being used."

For further information contact:

Tom Byron or Jan Solga
Puget Sound Governmental Conference
Grand Central-on-the-Park
216 First Avenue South
Seattle, Washington 98104
Telephone: 206/464-7594

Analyzing a Regional Highway Network

"The Kenosha urbanized area DIME file was evaluated in 1972 through a computer generated Cathode Ray Tube (CRT) plot of all streets represented in the Kenosha file. The CRT plot indicated that the Kenosha file contained street segment errors amounting to less than two percent of the entire file. In the future, DIME file evaluations are to be conducted here with the Commission's Calcomp 905/936 plotter scheduled to be delivered later this month.

"The Commission's Transportation Planning Division is currently utilizing the DIME XY coordinates as the interface with the Commission's highway network nodes for the purpose of regional highway network analysis. The DIME XY coordinates provide the basis for the graphic display of transportation link characteristics within the urbanized areas such as:

- traffic capacities
- traffic counts
- pavement widths
- jurisdictional classifications
- federal aid classifications
- minimum time paths
- number of vehicle miles traveled."

For further information contact:

K. W. Bauer
Southeastern Wisconsin Regional
Planning Commission
916 North East Avenue
Waukesha, Wisconsin 53186
Telephone: 414/547-6721

DIME APPLICATIONS:

Carpol Users

"I would like to express the view . . . that this is one of the most exciting things I have ever seen come out of any research organization. In a way it is very straight forward, applying your background in computer techniques to a problem that has apparently eluded our society for a long time, a problem that is important whether or not there is an energy crisis. It is just possible that something like this could have an impact that is enormous in comparison with the investment you have put in, and I would certainly like to encourage the Census Bureau to use its technical background to aid localities in solving their problems. I think your expertise is a national resource of great importance, and it should be widely disseminated."

Dr. Harry Roberts
Census Advisory Committee of the
American Statistical Association

DIME APPLICATIONS: CARPOL USERS

One current application of the DIME files which is being reported by numerous cities across the country is the implementation of automated carpool programs using the Census Use Study's CARPOL system. A description of the CARPOL program plus profiles of how the program has been implemented in several selected cities are included in this section.

CARPOL

CARPOL, an automated approach to carpooling, is an application of DIME technology presently in use in many cities across the country. The program produces individual lists of prospective carpoolers for those participating in large-scale, share-a-ride-to-work programs. These lists do not assign candidates to carpools. Rather their aim is to provide each candidate with a wide choice of potential fellow-riders from which a candidate can select a congenial group.

CARPOL takes advantage of the GBF/DIME files, although any geographic reference file or geographic areas may be used - census tracts, zip-code areas, traffic zones, etc. The coordinates of the center point of each census tract or geographic area are determined in order to establish which areas are close to each other. The administrator of the program sets a minimum number of persons to appear on each list.

ADMATCH is used to append census tract codes or appropriate area identifiers to carpool questionnaires which contain employees' addresses, work hours, and office telephone numbers. Once this geographic identifier is attached to the records, the program matches all the candidates within the particular area. It will also match the potential carpoolers on the basis of common work days, work hours, and participation as either driver or rider. The amount of flexibility in work hours to enable a match is also determined by the organization running the CARPOL program. If there is not a sufficient number of persons living within the particular area to complete a list, the program will match those persons living a further specified distance from the center of the census tract or geographic area.

The CARPOL program is available from the Bureau of the Census for seventy dollars (the price of the tape). The cost of implementing the program varies with the number of participants and the size of the computer. CARPOL is available in FORTRAN IV and can be run on most machines with very little difficulty.

Further information on the CARPOL program is available from:

The Census Use Study
U.S. Bureau of the Census
Washington, D.C. 20233
Telephone: 301/763-7533

In an effort to reduce smog and congestion in the downtown area, the County of Los Angeles adopted a policy to promote carpools among its employees in the Civic Center area. No specific funds were set aside for the project, but an organization was set up in the office of the County's Chief Administrative Officer (CAO), made up of representatives of the Data Processing Department, the County Road Department and each of the approximately 68 other county departments.

The Civic Center area was chosen as a test site. It was decided to send questionnaires to some 8,200 (out of an estimated total of 12,000 county employees) who were not serviced by a "mini-bus" route and who would, therefore, theoretically be interested in carpooling. Preferential parking and flexible working hours were offered as incentives. Employees were further motivated by the fact that the questionnaires were attached to their paychecks.

Some 6,400 questionnaires were returned; about 30% (1,831) of those replying expressed an interest in carpooling; 1,300 carpool lists were distributed to candidates within a month of circulation of the questionnaires.

A steering committee resolved procedural questions on gathering update data, frequency of update, as well as evaluation.

One hundred sixty-six cars were taking advantage of preferential parking spaces as of April 1974. The carpool lists are updated on a monthly basis so that new participants can take part in the program, address and work hour changes can be implemented and deletions can be made.

The CAO is examining the feasibility of providing a carpool test generating service to any group in the County and the feasibility of establishing a non-profit corporation to provide this service.

The CARPOL program grew out of the Los Angeles experience. When cities throughout the country began contacting the Census Use Study for more information on its approach to large-scale carpooling, wide distribution of publications describing the project was required.

For further information contact:

Leo Schuerman
Census Use Study
1110 N. Mission Road
Room 207
Los Angeles, California 90033
Telephone: 213/225-3115 x72984

San Francisco has adopted the CARPOL program on an areawide basis and is matching drivers and riders throughout the nine-county San Francisco Bay Area. Interested private and public organizations joined together to establish a major carpool campaign entitled, "RIDES for Bay Area Commuters."

To meet the diverse needs of the Bay Area, the program has been expanded to include multi-destination sites. In addition to matching candidates who live nearby, the program also matches persons who work in the same general area. This modification was easily effected and did not increase the cost of running CARPOL.

RIDES has run the first match of 15,425 applicants, finding at least one suitable candidate for 13,135 commuters and on an average finding 10 candidates per applicant.

A flyer that accompanies the carpool list includes instructions for forming a carpool and keeping it going once it is started.

The Metropolitan Transportation Commission (MTC) has joined RIDES and will follow-up with a survey to evaluate the effectiveness of the program and recommend the changes that may be necessary for i t to become a continuing operation.

The questionnaires are available for areawide distribution through major employees and most participating agencies. Questionnaires are also distributed in cartons of Coca-Cola, at gas stations, and at bridge toll gates.

For further information contact:

Marvin S. White
Census Use Study
New Federal Office Building,
Room 9013
450 Golden Gate Avenue
San Francisco, California 94102
Telephone: 415/556-7655

In an effort to make a favorable impact upon the energy crisis, parking problems, traffic flow and air pollution, a carpooling effort involving local government employees was organized.

A task force consisting of representatives of various city departments was formed to study the technical aspects of carpooling and approval was solicited from all the elected officials of the township, city and county. Questionnaires were distributed to city, county and township employees.

ADMATCHing the affirmative questionnaires against the city's address coding guide produced an 85% match rate. Census tract numbers were added manually to the non-matches.

The CARPOL program produced candidate lists which averaged eight names. If the prospective carpooler lived near a bus line that passes within walking distance of the City-County Building, the approximate bus schedule was attached to his carpool candidate list.

Some 585 carpool lists were distributed on April 5, 1974, with a cover letter from the Mayor. Computer-related costs (key-punching, verifying, and computer runs) totalled $293.80 or about 50 cents per participant.

In the succeeding phases of the program, state employees who work in downtown Indianapolis will be invited to participate.

The program, which has the support of civic and business organizations, will shortly be expanded to include the private sector.

For further information contact:

John Rowe
Unified Statistical Evaluation Study
Census Use Study
1622 City-County Building
Indianapolis, Indiana 46204
Telephone: 317/633-6186

Like Los Angeles, Baltimore initiated its carpooling campaign with the public employees. Baltimore decided to implement CARPOL because of several factors:

1. The city had already made substantial time and monetary investments in the GBF/DIME file.

2. The CARPOL program was already operative.

3. The data gathered from the questionnaire would be useful for other purposes, e.g., social indicators, transportation studies, etc.

An administrative hierarchy was set up with team leaders appointed to channel information from supervisors and to insure that questionnaires were distributed and returned. Each of the 1,113 employees who were interested in carpooling received a carpool list.

The carpool program in Baltimore is presently in its second phase and is being expanded to include the entire central business district. The program has been modified to include multi-destinations. The central business areas have been divided into cells averaging between 900-1000 feet (the distance a person would be willing to walk from his mode of transportation to place of employment). A number is assigned to each cell. The carpool questionnaires are then ADMATCHed twice: first to determine the residence census tract and second to establish the employment cell number.

The system will be expanded to include the entire metropolitan area and will be adopted by the State of Maryland Department of Transportation for use throughout the state.

For further information contact:

James W. Johns
Baltimore City Department of Planning
Research Section, 8th Floor
222 East Saratoga Street
Baltimore, Maryland 21202
Telephone: 301/396-4335

The Federal complex in Suitland, Maryland, located some 15 minutes from downtown Washington, D.C., employs about 6,000 persons. There is ample free parking and good access.

The Social and Economic Statistics Administration (SESA), the largest employer in the complex, was interested in reducing gas consumption by encouraging carpools. Administrators explored various carpooling methods and finally chose CARPOL, developed by one of its own units, the Census Use Study of the Data User Services Office of the Bureau of the Census.

In early December, questionnaires were distributed to employees of SESA and other participating agencies. Personnel at the Census Bureau's facility in Jeffersonville, Indiana, were also included. The questionnaires were returned to the energy conservation liaison in each division. The carpooling program received extensive in-house publicity. Of the 5,000 persons who returned the questionnaire, 30% were already in carpools, 76% expressed an interest in joining or expanding carpools.

As of March 31, 1974, 42% of employees were in carpools. New carpool lists are updated every six months to enable new employees to participate in the program.

For further information contact:

Joanne Hanna
Administrative Services Division
Social and Economic Statistics
Administration
Washington, D.C. 20233
Telephone: 301/763-5406

Early in 1974, in the face of decreasing gasoline supplies and increasing fuel costs, the Central Virginia Planning District Commission was instructed to provide District citizens with an alternative to their current commuting patterns. These alternatives include car/van/bus pools, fringe area parking lots, improved public transit services, etc. However, the initial focus of the project has shifted from one of energy conservation to that of providing multi-modal, citizen-responsive transportation facilities.

Called COMPUTERIDE, the project is serving the 166,000 residents of the Central Virginia Planning District, which includes the cities of Lynchburg and Bedford, and the counties of Amherst, Appomatox, Bedford and Campbell.

A volunteer steering committee, composed of local industries and organizations, was established and includes Fidelity American Computer Services, Babcock and Wilcox, General Electric, the Automobile Club of Virginia (AAA), Central Virginia Industries, the Central Virginia Federation of Chambers of Commerce, the Metropolitan Transportation Planning Division of the Virginia Department of Highways, and the Central Virginia Planning District Commission. Technical Assistance for computer set-up and modification, base map production and survey from design was provided by the Virginia Department of Highways. Computer time, programming, survey form printing, base map reproduction, and distribution and collection channels are entirely volunteer efforts by the corporations involved. Publicity (billboards, feature articles, radio and television coverage and exposure) was extensive and was provided by local media, advertisers and cooperating organizations.

Survey forms and maps are made available to each employer in the District. Key personnel within the corporate structure are made responsible for the completion, collection and distribution of the survey forms and carpool lists.

The project is using the multi-place of work version of CARPOL developed by the San Francisco Census Use Study office. Since the DIME file for the entire District is not yet complete, the individual being surveyed is required to locate and self-code the area in which he lives onto the form. The areas are shown on a 2-color map of adequate detail. The map is divided into traffic zones for the area covered by the Lynchburg Transportation Study. Outside this area, the map is divided into 2-mile square grids. The entire operation may be automated once the DIME file is completed.

Modifications were made to the program to reflect the low population density character of the area and special programs were developed

to perform certain edits, convert responses to appropriate characters and perform updates on master file records.

The questionnaire is designed to obtain basic information - home and work address, work hours and days, usual mode of transportation, and questions regarding interest in carpooling, bus/van pooling, fringe area parking and public transportation. The questionnaire also contains several optional questions such as total weekly mileage, age group, number of autos, number of licensed drivers, and combined annual family income. The responses are kept confidential. In addition to providing the data necessary to establish a carpooling program, the information can be used for determining other aspects of transportation planning and analysis: work-trip origin/destination information, spiderweb networks, cross classification application, fringe lot location, transit routing, vehicle occupancy and socioeconomic characteristics of commuters.

Initial results indicate a 100% response rate from employees in participating companies, with 80% answering some of the optional questions, 40% answering all of the optional questions and a majority desiring a carpooling list. It is anticipated that the final computer operations will require $.02 to $.03 per participant in donated computer time.

The information derived from the project will lead to some physical improvements in the total transportation system. But the greatest benefit perhaps, will be the establishment of a citizen spirit of cooperation to solve local problems without the large-scale expenditure of public funds

For further information contact:

Wyndham B. Blanton III
Virginia Department of Highways
1401 E. Broad Street
Annex Room 111
Richmond, Virginia 23219
Telephone: 804/770-2971

Other cities reporting the use of CARPOL are listed on the following page.

OTHER CITIES REPORTING THE USE OF CARPOL

ARIZONA, Phoenix
Ramada Inns, Inc.
3838 East Van Buren

Contact: W. Thomas Castleberry
Telephone: 602/275-4741

COLORADO, Denver
Denver Regional Council of Governments
Suite 1100
1776 South Jackson Street

Contact: Gary Johnson
Telephone: 303/785-5166

FLORIDA, Tallahassee
Tallahassee-Leon County Planning Department
Post Office Box 533

Contact: Barbara Anderson
Telephone: 904/488-6133

ILLINOIS, Chicago
Standard Oil Company (Indiana)
200 East Randolph Drive

Contact: L. R. Tenner
Telephone: 312/856-5180

MARYLAND, Leonardtown
Cooperative Extension Service
P.O. Box 441

Contact: Don Miller
Telephone: 301/475-9121

MISSOURI, St. Louis
University of Missouri
8001 Natural Bridge Road

Contact: Tom Sowash
Telephone: 314/453-5131

OHIO, Dayton
City of Dayton
Office of City Manager
Municipal Building
Third and Ludlow

Contact: Greg Cook
Telephone: 513/225-5520

OHIO, Lima
Lima-Allen County Regional Planning
Commission
300 Colonial Building

Contact: Ken Betche or Rich Howell
Telephone: 419/228-1836

PENNSYLVANIA, Pittsburgh
University of Pittsburgh
600 Epsilon Drive

Contact: Grif Smith
Telephone: 412/624-4285

and more....


Don't Ride Alone—Join a Car Pool
CAR POOLS
Old Hands At 'Pooling'
Census Bureau Is Offering Data For Workers to Form Car Pools
THE NEW YORK TIMES, DECEMBER 12, 19
Computer To Form Car Pool
Car pools via computer gain
County Car Pool Program Ready for Business District
Area Car Pools Taking Hold
By Thomas Cresby
firms in carpooling and distributed more than 165,000 carpool questionnaires to

DIME APPLICATIONS:

The International Connection

"... It happened that the DIME system exactly fitted all our specifications. It was the best according to the needs for decisionmaking in the private and public sectors. With some very slight changes we adopted that system."

JEAN SALMONA, "DIME Technology in France" in Data Uses in the Private Sector.

DIME APPLICATIONS: THE INTERNATIONAL CONNECTION

In addition to the applications of DIME technology reported by cities throughout the United States, numerous foreign governments have expressed an interest in DIME. The Census Use Study has provided publications, documentation and consultation to assist foreign governments in the evaluation of DIME-based information systems in relation to their specific needs. In the case of France, Israel, Germany and Sweden, DIME-based information systems have been implemented in cities throughout the country.

The developed countries are moving ahead very rapidly in the application of methodologies and geographic base file technology as they pertain to information systems. In August 1972 the Census Use Study organized the First International DIME Colloquium to bring together representatives of these countries to exchange ideas on future developments.

The Director of the Bureau of the Census and representatives from the Census Use Study attended two major European conferences, including the Second International Colloquium on Segment-Referencing Systems (a follow-up to the First International DIME Colloquium) where current and future plans for the application of DIME technology were discussed.

A publication on the Second International Colloquium will be available in late 1974 and will include additional information on the international use of DIME-based geographic referencing systems.

FRANCE, National Institute of Statistics and Economic Studies

April 1974

The DIME system, with few modifications, has been adopted in France and files are being built for all urban units having more than 20,000 inhabitants. The system will be used first for the 1975 Census of Population data collection, for coding place and work activity, for processing small areas and, more generally, for the geocoding of administrative records to be used as data bases in urban information systems. The geographical base file will be updated yearly.

The Repertoire Geographique Urbain (RGU), the French file, follows the DIME system very closely. The principal differences are in the coding of the identifiers and the use of annex files to provide supplementary information. The identifiers permit the file to be updated and managed by the central government. These modifications include the following:

- The names of streets are not spelled out but are given codes. These 4-digit codes correspond to the codes on the national street register, managed by the tax service.

- Nodes are numbered in the interior of a grid cell, instead of by a map sheet. This allows finer controls on the accuracy of the digitizing.

- Blocks are numbered within geographic units defined by the tax service.

- The commune is the base administrative unit. The file is extended to the non-urbanized areas in order to cover the entire commune.

- The definition of the segments only takes into account the topological data and not the topographical data (curvature, etc.). The coordinates interior to a segment are stored in an annex file and there are a variable number of intermediate points permitted.

The file has been useful in disseminating necessary data from the main administrative files at the block, block face and segment levels to the public and private sectors in France. Various software applications are also being developed.

For further information contact:

Jean Salmona
Chief, Division des Systemes
D'Informations Localisees
Department de la Coordination
Statistique et des Etudes
Economiques
343 bd Romain Rolland
13009 Marseille
France

MARSEILLE April 1974

Site Selection

"A bank in Marseille was looking for an area that had characteristics which would prove favorable for the establishment of a new branch: high income levels and weak competition. The number of households, income levels, average personal income per member and the number of banks were determined for selected areas, which had a favorable topography, transportation system and traffic flow. A penetration index based on the number of banks and household income for each area was then calculated to determine the most favorable location for the branch bank." 1/

1/ Extracted from Donnees Pour La Decision 2, Institut National de la Statistique et des Études Économiques, Fall 1971.

ISRAEL, Institute of Transportation Planning and Research

March 1974

Israel's 1972 Home Interview Survey was conducted for the purpose of providing transportation planners with essential data necessary for formulating and evaluating transportation plans. The results of the survey enable an analysis of the socio-economic characteristics of travelers and their effects upon trip distribution in any particular area of the country. These effects upon travel enable planners to predict future demand upon the travel network and test alternative plans to cope with these demands.

In preparation for the survey, DIME files were created for 62 settlements with more than 10,000 population. The creation of the files was complicated by a lack of accurate maps, random address numbering and variations in street names and spellings.

To geocode the addresses reported in the Home Interview Survey to blocks or block faces complete addresses were identified using the National DIME File. Incomplete addresses were geocoded using special auxiliary files, which were created to improve the geocoding capabilities of the system. These files include:

- "Place File," which mainly includes estates with irregular house numbering systems. The file lists the code for each estate, its statistical area and block numbers.
- "Major Generator File," which is a list of office buildings, factories, shopping centers, hotels, etc., with their code, statistical area and block number.
- "Intersection File." The file lists all block numbers around an intersection which is identified either by the crossing streets or its node number.

The automated geocoding was performed by the following three systems of programs:

- NEWMATCH, an address matching program which works entirely on numeric indicators and disregards the alphabetic street name.

- UNIMATCH, a computer system developed by the Census Use Study for generalized record linkage under conditions of uncertainty.

- ALLOC, a program to select a specific block from a number of possibilities.

GRIDS was also used to map the entire street network and to prepare a listing of land use data for individual blocks.

Great interest has been shown in the use of the DIME files and considerable progress is expected in all fields of application and development.

The Israel Institute of Transportation Planning and Research has begun work in the following areas:

- Insertion of DIME features into traffic management files, e. g., traffic volume count files and street inventory files.

- Addition of DIME interface capacity to the Urban Transportation Planning Computer Battery 360.

- Automatic zoning, to be accomplished using the DIME system and appropriate data files.

- Preparation of a "Traditional Network" (i. e., a regular link-node street network) from DIME files.

- Preparation of an inter-urban DIME file which will omit the more detailed DIME description of the urban settlement.

For further information contact:

Gideon Hashimshony
Director, The Israel Institute of Transportation Planning and Research
14 Ahad Haam Street
Post Office Box 29510
Tel Aviv, Israel 65142

SPAIN, Information and Documentation Consortium of Catalonia

April 1974

The Information and Documentation Consortium of Catalonia was assigned the task of creating a data bank for Catalonia. While an exact system has not yet been selected, a modified DIME file was constructed for the urban area of Barcelona and Ospedalet (two million inhabitants, 12,000 hectares).

The modifications made to the DIME system take into account certain peculiarities specific to Spain. These are:

- Utilization of a street name code.
- Utilization of a street numbering coding system which takes into account particular sequences of addresses (e.g., 2, 4, 8 . . .).
- Identification of nodes in the interior of a grid cell (instead of in a map sheet).
- A rigid orientation of the segments for the postal addresses.

Segment numbers are not utilized, and updating is accomplished by means of the node numbers. In order to take into account the anticipated needs of users of the system, two modes of utilization will be designed: one for the purpose of management and the other for planning.

The file will shortly be in operation in Barcelona and Ospedalet. Although no national program has been proposed, this file will ultimately be extended to cover other communities in the region that wish to use it.

For further information contact:

Luis Carreño
Director, Consorcio De Información
y Documentación de Cataluña
Urgel, 187
Barcelona 11, Spain

SWEDEN, NORDIC Institute for Studies for Urban and Regional Planning

In Sweden the local community governments have certain prerogatives. Among these are complete control of city planning and a certain autonomy in the matter of taxation (the central government controlling only the major taxes).

In order to respond to the needs of local governments, a referencing system was begun in 1972 under the auspices of the Project NORDPLAN. The system which was developed is called COMPAS (Community Planning and Analysis System) and is intended as a planning tool on a local and regional level. The system is basically a DIME file without block numbers. While this feature removes the dual nature of DIME encoding (and its associated edit capabilities), the extremely accurate and frequent addition of information for correction and update compensates for this lack of block numbers. The source of this information is the central population register, a file maintained by the central government and updated weekly.

In this system, elements can be identified by the segment number or node number. The segment numbers are generated by a program during the digitizing process. The extreme nodes, the intermediate nodes and an identifier are coded and all segments are oriented automatically. A manual process records the parcel numbers and house addresses. The records are variable length, and each record contains a complete list of all house and parcel numbers, permitting linkage to other systems. For updates and data retrieval, the system requires a specialized data management system.

At present, police reports on traffic accidents go directly into the system. Using a segment/address index, accidents are coded on either the segments or the nodes. Besides detailed traffic accident statistics, maps of the distribution of accidents of various kinds can be produced.

Other applications are under consideration: registration and storing of road and street network qualities, storage of traffic surveys; storage of public transportation networks, which will eventually include all stops and timetables; storage of employment, service, recreation, social welfare and building permit data.

For further information contact:

Owe Salomonsson
NORDPLAN
Skeppsholmen, 111-49
Stockholm, Sweden

WEST GERMANY, DATUM (Documentation and Research Center for the Theory and Methods of Regional Planning)

April 1974

As the West German agency concerned with promoting the development and application of new computer-oriented planning and decisionmaking aids, DATUM is working on pilot studies in direct cooperation with state and local government agencies, and is providing state and local administrations with the expertise and programs resulting from this effort.

Among the activities of DATUM, the promotion of planning-oriented geocoding systems is of prime interest. An initial project was begun to study the transferability of the DIME concept and its relationship to the development of administrative and census files within German cities. For a portion of the City of Dortmund, a DIME file was produced and its implementation was adjusted to the specific situation. Special edit programs were developed and various experiments with the application of the reference file have been executed.

The West German system allows planning at a parcel, block, segment level and ultimately a communal level. This is accomplished through a number of DIME-type files for identifiers at all levels. For example, one file will represent the connectivity of all urban units, and subset files will deal with individual communities. Coordinates are placed on annex files.

An interactive program, DISTRICT, was developed which allows the user to investigate any area by typing the names of the streets which surround the area. The computer checks whether these streets are connected and the user may indicate the data he would like to have displayed. Another program used in connection with the West German DIME file is called SITE PLANNER, an interactive resource allocation model.

A 5-year project, sponsored by the Federal Ministry of Science and Technology, was established to promote the development of integrated information systems for local and regional planning. In connection with the City of Dortmund and other local and state governments, the development of a comprehensive computer-oriented spatial referencing, analysis and

planning system is underway. Intensive studies have been made of various planning applications and of the possibility of integrating administrative and census files (including updating requirements). Moreover, appropriate software for editing and managing the reference files, as well as for districting, resource allocation and mapping is being developed.

Primary emphasis, however, is being given to the implementation of computer-oriented planning tools within the public planning process and to disseminating the results of these activities.

For further information contact:

Hans Hansen
Directeur, Documentations und
Ausbildungszentrum fur Theorie
und Methode der Regionalforschung
e.V.
Annabergestrasse 148
Bad Godesberg 532
Germany

DIME APPLICATIONS:

Future Prospects

"Several new applications of the DIME/ADMATCH system are in the discussion stage with various agencies at this point in time. It is therefore impossible to pinpoint all possible uses. However, with the experience gained the past seven months by this agency, it is expected that these applications will continue to increase at a faster rate than we could possibly anticipate or plan for."

Dennis M. Strohbusch
Three Rivers Coordinating Council
One Main Street
Fort Wayne, Indiana 46802

DIME APPLICATIONS: FUTURE PROSPECTS

The previous sections of this publication include summaries of the applications that have already been completed or are in progress. This section contains a sampling of planned projects which will utilize the capabilities of DIME technology.

CALIFORNIA, Sacramento October 1973

". . . One planned use is in implementing our housing module. We gather building permit information by address each year to be coded for processing in small zones in the region. The DIME file in workable condition would greatly decrease lost time in implementing our largest module. If it were possible to tie into the assessor's files on computers for areas in our region, and match their files to DIME, we could immediately map new construction into their respective zones, which would be a considerable time savings.

"Another possible use is that of mapping census and population changes into areas to determine realignment of school boundaries. Now much time is lost in trying to balance out population in schools, but with DIME, one could analyze the possible boundaries in seconds on a computer."

For further information contact:

Bob Faseler
Sacramento Regional Area
Planning Commission
1225 8th Street, Suite 400
Sacramento, California 95819
Telephone: 916/447-9171

CALIFORNIA, San Jose February 1974

"Plans anticipate coordinating the DIME file with Planning Department maintenance of the Census Tract Street Index (CTSI) and the County Property Location Index (PLI- a parcel situs address list).

"Long-range plans anticipate it could be coordinated with the Registrar of Voters precinct coding guide, County Communications dispatch records and Public Works Department base map maintenance program."

For further information contact:

Richard W. Renshaw
Santa Clara County Center for
Urban Analysis
19 County Administration Bldg.
70 West Hedding Street
San Jose, California 95110
Telephone: 408/299-3285

CALIFORNIA, San Francisco/Oakland

October 1973

"Anticipated plans for use of the San Francisco/Oakland SMSA file by the California State Department of Health include the following projects:

1. Printed Census Tract Street Guides will be prepared to permit the clerical resolution of rejected records.

2. The Alameda County Precinct Guide will be used to supplement the Alameda County portion of the DIME file.

3. The DIME file computer edit procedure will be expanded to detect other deficiencies.

4. To prevent the mismatching of addresses on the basis of blank place code fields, we are considering replacing blank place codes with a county specific code in the reference file records.

5. Further address scanning procedures may be indicated to differentiate between areas with similar city names.

6. In anticipation of better match rates, zip codes may be incorporated into the address field of CIS records.

7. A procedure for updating the DIME file to reflect new construction and street demolition is indicated.

8. For computer mapping purposes, there may be a requirement for determining the geographical coordinates of each census tract in the San Francisco/Oakland SMSA. Since these are not readily available on the DIME file, it would require the location of the centroid of each tract and the calculation of the centroid coordinates.

9. There are other units within the Department of Health that are either employing manual methods of geocoding or have address matching projects under active consideration. The experience which we accumulate in computer geocoding procedures will undoubtedly eventually result in computer geocoding applications in these other areas. An example is a cardiovascular research project which has a file of 50,000 cases lacking zip codes. There have been expressions of interest in applying the methodology which we are employing to these files."

For further information contact:

Max Arellano or
Shelley Karp
California State Department of Health
2151 Berkeley Way
Berkeley, California 94704
Telephone: 415/843-7900

CALIFORNIA, Ventura — January 1974

Upon completion of the CUE process for the entire county (about six man-months), extensive uses of DIME are planned. These include the following, in order of planned application:

1. Land Use Inventory File

2. Building Activity Projection Model

In an ongoing manner with the above, other local government agencies will be made aware of the capabilities of DIME and will be encouraged to participate in it. It is hoped that the increased information made available through DIME will assist in decisionmaking for all involved.

For further information contact:

Howard Buchalter
Ventura County Planning Department
52 N. California Street
Ventura, California 93001
Telephone: 805/648-6131 x2471

FLORIDA, Miami — April 1974

Because of rapid changes in population distribution a method of reallocating people to voting precincts and districts is needed. The DIME file will be used for reprecincting and redistricting on a more timely basis.

For further information contact:

Joseph Malone
Management Information System Section
Community Improvement Program
2200 Courthouse
Miami, Florida 33130
Telephone: 305/377-5201

FLORIDA, Miami April 1974

Crime activity reports are prepared monthly and used to identify high crime activity areas and reassign police patrols.

An on-line ADMATCH capability is being constructed to provide reporting control, fluid patrol assignments and rapid crime activity analysis for the Public Safety Department.

The result should be the immediate identification of crime activity and the more efficient and timely reassignment of police patrols to the areas of greatest activity.

For further information contact:

Joseph Malone
Management Information System Section
Community Improvement Program
2200 Courthouse
Miami, Florida 33130
Telephone: 305/377-5201

FLORIDA, Tallahassee February 1974

Planned applications include refuse vehicle routing within the City of Tallahassee; car-pooling, if it is approved by the Commission; and a utility customer movement profile within the district to define customer mobility.

For further information contact:

Barbara Anderson
Tallahassee-Leon County Planning Department
Post Office Box 533
Tallahassee, Florida 32302
Telephone: 904/488-6133

KANSAS, Wichita — January 1974

"Under current staff and budget limitations the Wichita DIME file will not be ready for use until the summer of 1974. When ready, the DIME file will replace the Address Coding Guide in all applications, and support for the ACG will be dropped.

"Plans for DIME usage are at present tentative, but do include geographic indexing, interface with computer mapping routines and cross-reference with other files. In anticipation of the completion of the DIME file, several other data sources have been designed to include DIME data files and field format specifications.

"The local Land Use File, which is maintained by the Sedgwick County Assessor, includes fields for the DIME record number and street code as a method of record selection. The format of the street name and address fields are identical to DIME to minimize conversion problems."

For further information contact:

Willard L. Stockwell
Wichita-Sedgwick County
Metropolitan Area Planning
Department
104 South Main
Wichita, Kansas 67202
Telephone: 316/262-0611

MISSISSIPPI, Jackson — April 1974

"The DIME file is currently being studied for use in police statistical reporting . . . Data such as number of arrests, accidents, etc., are quantified by occurrence to specific areal locations. By keeping these data to a street address, the DIME file and ADMATCH can be used to geocode, reducing time for reporting and analyses..."

"Long-range plans include the development of a police and emergency vehicle dispatch system using the DIME file. This planned system would provide police and fire vehicles with selected site characteristics (such as land use, structural type, etc.) as well as optimizing their response time."

For further information contact:

Claude E. McCants
Jackson City Planning Board
Post Office Box 22568
218 South President Street
Jackson, Mississippi 39205
Telephone: 601/354-2336

MISSOURI, Springfield January 1974

The first planned application involves the use of health data. As soon as that application is demonstrated successfully, it is expected that varied applications will become available.

For further information contact:

Harold Haas or
Fred Turner
Planning and Zoning Commission
City Hall
830 Boonville Avenue
Springfield, Missouri 65802
Telephone: 417/865-1611

NEVADA, Las Vegas February 1974

Present and planned uses for geocoded files include school zoning, busing schedules, facilities planning, transportation studies, land planning, school population data studies and school finance.

Agencies other than the Clark County School District that might use the file include the Fire Department, Juvenile Records Division, the Welfare Department, the Regional Planning Organization, the Assessor's Office and the Nevada State Highway Department.

For further information contact:

Jack Schofield
School Planning and Zoning
Clark County School District
2832 East Flamingo Road
Las Vegas, Nevada 89121
Telephone: 702/736-5268

NEVADA, Reno — April 1974

The traffic analysis zone data file and the DIME file will be used as the foundation of the proposed Washoe County Regional Information System. One of the immediate objectives of the Regional Planning Commission as stated in the Department of Housing and Urban Development certified 1972-1973 Annual Work Program is the formation of a Regional Information System. Formation of this System consists of a number of phases. Phase 1 - concept, inventory and analysis of a Washoe County Regional Information System - was completed February 1974. It is proposed that the Highway Department provide the necessary hardware, software and manpower for a Regional Information System until 1975 when the County Computer Facility can provide the required services.

For additional information contact:

Stephen T. Bradhurst
The Regional Planning
Commission of Reno,
Sparks, and Washoe County
Post Office Box 1286
Reno, Nevada 89505
Telephone: 702/323-8691

NEW HAMPSHIRE, Concord — May 1973

The Department of Public Works and Highways is mapping and coding Sullivan County as a GBF. The file will contain nodes representing landmarks and the positions of highway mileposts in addition to their usual connotation. In cooperation with the New Hampshire Department of Safety and the Highway Safety Agency, that file will be correlated with motor vehicle accident and highway physical characteristic data.

For further information contact:

James M. Langley
State Department of Public Works
and Highways
John O. Morton Building
Concord, New Hampshire 03301
Telephone: 603/271-3281

NEW YORK, Nassau-Suffolk Counties/ January 1974

"We hope to complete work on the DIME file during the next six months. After this, we plan on using the information for studies on the Journey to Work and transportation in general. In addition, we hope to pinpoint employment by small areas and update the information on a periodic basis."

For further information contact:

Arthur H. Kunz
Nassau-Suffolk Regional Planning Board
Veterans Memorial Highway
Hauppauge, L.I., N.Y. 11787
Telephone: 516/724-1919

NORTH CAROLINA, Charlotte February 1974

"Early in January, plans were developed for the formation of a project team to begin correcting, updating and extending the DIME file - an estimated four month project. Applications, presently in the conceptual stage, will be developed. These will probably include police patrol assignments, fire routing, planning commission cross-tabulation of dissimilar data tapes, and other uses..."

For further information contact:

Robert D. Malarky
Charlotte-Mecklenburg Planning Commission
701 East Trade Street
Charlotte, North Carolina 28202
Telephone: 704/374-2914

OHIO, Columbus January 1974

Plans are being made to put the DIME file in one system along with related data files such as population, housing and land use so the data will be available to users, possibly on a time-sharing basis.

For further information contact:

Eileen Flowers
Mid-Ohio Regional Planning Commission
514 South High Street
Columbus, Ohio 43215
Telephone: 614/228-2663

OHIO, Lima February 1974

The Lima-Allen County Regional Planning Commission is researching the possibility of utilizing its own records or the Allen County Auditor's data file for a land use study. Presently the Auditor's Office has each parcel of land on tape. This can hopefully be accomplished during 1974.

The Planning Commission intends to act as technical consultants in the utilization of DOT's carpool program. This will require coordination between the Commission and large industry and business in the area, based primarily on trip generation. It is hoped that DIME file information will be useful in this regard.

For further information contact:

Ken Betche or
Rick Howell
Lima-Allen County Regional Planning Commission
300 Colonial Building
Lima, Ohio 45801
Telephone: 419/228-1836

OHIO, Warren January 1974

"In the future, a data bank, eventually covering the four county area of Ashtabula, Trumbull, Mahoning and Columbiana Counties will be established to evaluate this area to pull out information for all phases of planning and some related fields. With the application of coordinates to nodes, this four county area data will be available to the other 11 counties in Northeastern Ohio, as well as any county in Ohio, the U.S.A., etc."

For further information contact:

Edward L. Kutevac
Trumbull County Planning Commission
160 High Street, N.W.
Warren, Ohio 44481
Telephone: 240/399-8811 x251

TENNESSEE, Chattanooga April 1974

The greatest potential of the DIME file is as input to the distribution of current social data over the city. The Chattanooga-Hamilton County Planning Commission hopes to use it with pupil addresses to indicate the direction and extent of migration within the city. "Present uses have required the pupil address tape, the DIME file, ADMATCH, and the GRIDS program. Other possible uses are mapping of specialized population distributions and time and area distribution of crimes for police watch and patrol scheduling."

For further information contact:

Ronald Lee McCann or
William C. Stowell
Chattanooga Area Regional Council
of Governments/Southeast
Tennessee Development District
413 James Building, 735 Broad St.
Chattanooga, Tennessee 37402
Telephone: 615/266-5781

TENNESSEE, Memphis — April 1974

The Memphis Police Department is planning to use the DIME file as the base for its law enforcement resource allocation, computer-assisted dispatching and police statistical reporting.

For further information contact:

Sgt. Richard O. Parker
Memphis Police Department
128 Adams Avenue
Memphis, Tennessee 38103
Telephone: 901/527-6681 x333

WISCONSIN, Milwaukee — May 1973

Future application of the DIME program of the Southeastern Wisconsin Regional Planning Commission include:

- The expansion of DIME coding during 1974 to include coverage of the entire 2,689 square mile Southeastern Wisconsin Region.
- Digitizing the corners of all 10,800 U.S. Public Land Survey one quarter sections (the basic unit of analysis for local data compilation) within the region.
- Digitizing the boundaries of other geographic units of analysis such as watersheds, school districts and other unique analysis areas.

For further information contact:

K.W. Bauer
Southeastern Wisconsin Regional
Planning Commission
916 North East Avenue
Waukesha, Wisconsin 53186
Telephone: 414/547-6721

ON CUE:

Maintaining the DIME Files

"The Dayton CPMP has been coordinating the CUE program in Dayton. We have completed Part I corrections and we are 75% complete in Part II. The City has done most of the work but we have had assistance from Transportation Coordinating Committee (TCC); Montgomery County; and the Combined General Health District. We plan to begin the update program in February and complete all corrections and update by June 1974."

Greg Cook
Community Planning and
Management Program
City of Dayton
101 West Third Street, 4th Floor
Dayton, Ohio 45402

ON CUE: CORRECTING, UPDATING AND EXTENDING THE DIME FILES

If the DIME files are to be useful to local users as well as to the Census Bureau, the files must be maintained. To accomplish this the Census Bureau has established a program for the Correction, Update and Extension (CUE) of the files.

This section includes:

- A description of the CUE program.
- A list of the local DIME contacts by state and SMSA.
- A list of the local ACG contacts by state and SMSA.

THE CUE PROGRAM OF THE CENSUS BUREAU

Geographic Base DIME Files have now been established for some 200 Standard Metropolitan Statistical Areas (SMSA's). During the next several years the Census Bureau expects to establish approximately 70 additional GBF/DIME Files and thus include all the SMSA's which the Office of Management and Budget has designated to date. Unfortunately, but as expected, the current files, at least in some areas, are becoming somewhat outdated as the dynamics of city growth and change continue to modify political, statistical and geographic boundaries. Obviously, if the GBF/DIME system is to be most useful to local agencies, as well as to the Census Bureau, the files must be maintained in a current condition. To accomplish this the Census Bureau has established a program, the CUE program, for the Correction, Update and Extension of the Geographic Base DIME Files.

The purposes of the CUE program are:

1. To establish a GBF/DIME and Metropolitan Map Series in those SMSA's where the file and map series do not currently exist.

2. To make corrections as necessary to produce a complete and accurate file and set of maps for each SMSA participating in the GBF/DIME program.

3. To extend the GBF/DIME Files and MMS maps to cover the entire geographic areas of the SMSA. (At present only the urbanized portion of the SMSA is covered.)

4. To establish a standardized methodology under which each SMSA can systematically maintain a current and accurate file and map series on a continuing basis.

The Census Bureau is providing to the local agencies the clerical procedures, processing methodology and the computer programs necessary to carry out the CUE operations. It is doing this to establish standardization of the selected information and to promote uniformity of procedures. Wherever feasible, the Bureau will urge that its procedures and computer programs be incorporated in the continuing local programs.

Standardization is, in fact, a must. Otherwise instead of a compatible nationwide series of GBF/DIME Files (the eventual goal of the system), there would exist hundreds of independent and largely non-compatible systems; and the anticipated usefulness of the files, both in terms of local information exchange and as input to the Bureau's 1980 geographic process, for example, would cease to exist. It should, perhaps, be noted here that parts of the CUE

program are now operational and agencies in approximately 105 SMSA's are beginning to update their GBF in participation with the Census Bureau - utilizing Bureau-produced edit and correction routines.

It should also be noted that the CUE procedures do not direct a rigid, inflexible system, identical in format and in use, in every area throughout the United States. Rather, the file is considered to be constructed in two parts: one part containing certain standard elements that will apply to all areas; the second part containing local information and geographic elements which will vary from area to area, depending upon the local use of the file and local requirements.

The CUE program has been designed to be carried out by local agencies of government. The Bureau realizes, however, that some agencies, while they will be able to determine the corrections and additions required to the maps and files, may not have available either the technical personnel or the computer facilities to input the corrections into the tape files, or to run the computer edits. In this situation, within the limits of the funding available, the Census Bureau itself will carry out the various computer operations; and the local agency will then be responsible only for the clerical phase of the operations and for reviewing the computer outputs to ensure that the Bureau has done its part of the job correctly.

In addition, there will also be agencies which, because of previous developments or commitments peculiar to the local operation, will out of necessity undertake the correction, update and extension activities using procedures and computer programs other than those that are being developed by the Census Bureau. The Census Bureau will also work with these agencies in a continuing cooperative effort. However, in each of these cases special arrangements will be made in advance between the local cooperating agency and the Census Bureau to ensure a product compatible with the needs of both organizations.

From: The CUE Program of the Census Bureau, Prepared by: Mr. Morton A. Meyer, Chief, Geography Division, Bureau of the Census, January, 1973.

LOCAL DIME CONTACTS:
BY STATE AND SMSA*

ALABAMA

(SMSA: Birmingham)
Birmingham Regional Planning Commission
Birmingham, Alabama 35205
Contact: Mr. Donald Moseley
Telephone: 205/251-8139

(SMSA: Gadsden)
City Planning Department
Gadsden, Alabama 35902
Contact: Mr. Ronald Carr
Telephone: 205/543-9870 ext. 281

(SMSA: Huntsville)
City Demonstration Agency
Huntsville, Alabama 35801
Contact: Mr. W. T. O'Meara
Telephone: 205/539-2487

(SMSA: Montgomery)
State of Alabama Highway Department
Montgomery, Alabama 36104
Contact: Mr. John L. Skinner, Jr.
Telephone: 205/269-6576

(SMSA: Tuscaloosa)
City of Tuscaloosa Planning Department
Tuscaloosa, Alabama 35401
Contact: Mr. Alvin P. Dupont
Telephone: 205/759-4421 ext. 41 and 42

ARIZONA

(SMSA: Tucson)
Tucson Area Transportation Planning Agency
Tucson, Arizona 85701
Contact: Mr. Adelbert J. Beesley
Telephone: 602/882-5313

ARKANSAS

(SMSA: Ft. Smith, Ark. - Oklahoma)
Arkhoma Regional Planning Commission
Fort Smith, Arkansas 72901
Contact: Mr. Lynn Godwin
Telephone: 501/785-2651 or 785-2160

(SMSA: Little Rock - North Little Rock)
METROPLAN
Little Rock, Arkansas 72201
Contact: Mr. John S. Harrington
Telephone: 501/374-7531

(SMSA: Pine Bluff)
Southeast Arkansas Regional Planning Commission
Pine Bluff, Arkansas 71601
Contact: Mr. Danny Lephiew
Telephone: 501/534-4247

*From the Geography Division, U.S. Bureau of the Census, June 1974.

CALIFORNIA

(SMSA: Anaheim - Santa Ana - Garden Grove)
Orange County Forecast and Analysis Center
Santa Ana, California 92701
Contact: Mr. Terrill J. Campbell
Telephone: 714/834-3337

(SMSA: Bakersfield)
Kern County Planning Department
Bakersfield, California 93301
Contact: Mr. John Folpmers
Telephone: 805/861-2615

(SMSA: Fresno)
Fresno County Planning Department
Fresno, California 93702
Contact: Mr. Kerry McCants
Telephone: 209/488-3947

(SMSA: Los Angeles - Long Beach)
Los Angeles County Regional Planning Commission
Los Angeles, California 90012
Contact: Mr. Forrest Key
Telephone: 213/974-6486

(SMSA: Oxnard - Simi Valley - Ventura)
Ventura County Planning Department
Ventura, California 93001
Contact: Mr. Howard Buchalter
Telephone: 805/648-6131

(SMSA: San Bernardino)
Environmental Improvement Agency
San Bernardino, California 92415
Contact: Mr. Paul Steele
Telephone: 714/383-2645

(SMSA: Sacramento)
Sacramento Regional Area Planning Commission
Sacramento, California 95814
Contact: Mr. James A. Barnes
Telephone: 916/447-9171

(SMSA: Salinas - Seaside - Monterey)
County of Monterey Planning Department
Salinas, California 93901
Contact: Mr. E. DeMars
Telephone: 408/422-9018

(SMSA: San Diego)
Comprehensive Planning Organization
San Diego, California 92101
Contact: Mr. Jim Verougstraete
Telephone: 714/233-5211

(SMSA: San Francisco/Oakland)
Association of Bay Area Governments
Berkeley, California 94705
Contact: Mr. Bruce Strahan
Telephone: 415/841-9730 ext. 46

(SMSA: San Jose)
Santa Clara County Center for Urban Analysis
San Jose, California 95110
Contact: Mr. Richard W. Renshaw
Telephone: 408/299-3285

(SMSA: Santa Barbara - Santa Maria - Lompoc)
Santa Barbara County - Cities Area Planning Commission
Santa Barbara, California 93104
Contact: Mr. Clifford L. Pauly
Telephone: 805/966-1611

(SMSA: Stockton)
San Joaquin County Planning Department
Stockton, California 95205
Contact: Mr. Ruben Smith
Telephone: 209/944-2203

(SMSA: Vallejo - Fairfield - Napa)
See San Francisco

COLORADO

(SMSA: Colorado Springs)
Pikes Peak Area Council of Governments
Colorado Springs, Colorado 80903
Contact: Mr. Dave Bamberger
Telephone: 303/471-7080

(SMSA: Denver)
Denver Regional Council of Governments
Denver, Colorado 80210
Contact: Mr. Gary Johnson
Telephone: 303/758-5166 ext. 61

(SMSA: Pueblo)
Pueblo Regional Planning Commission
Pueblo, Colorado 81003
Contact: Mr. Charles J. Finley
Telephone: 303/543-6006

CONNECTICUT

(SMSA: Hartford)
Capitol Region Council of Governments
Hartford, Connecticut 06106
Contact: Mr. Denis D. Jones
Telephone: 203/522-6143

(SMSA: New Britain)
Central Connecticut Regional Planning Agency
New Britain, Connecticut 06051
Contact: Mr. Melvin J. Schneidermeyer
Telephone: 203/224-2695

(SMSA: Stamford)
Planning Board, City of Stamford
Stamford, Connecticut 06901
Contact: Mr. Matthew J. Brady
Telephone: 203/348-5841 ext. 281

DELAWARE

(SMSA: Wilmington)
Delaware State Planning Office
Dover, Delaware 19901
Contact: Mr. David R. Keifer
Telephone: 302/678-4271

DISTRICT OF COLUMBIA

(SMSA: Washington, D.C. - Md. - Va.)
Metropolitan Washington Council of Governments
Washington, D.C. 20036
Contact: Mr. Walter A. Scheiber
Telephone: 202/223-6800

FLORIDA

(SMSA: Ft. Lauderdale - Hollywood)
Broward County Area Planning Board
Fort Lauderdale, Florida 33301
Contact: Ms. Sandye Whitaker
Telephone: 305/765-5544

(SMSA: Jacksonville)
Jacksonville Area Planning Board
Jacksonville, Florida 32202
Contact: Mrs. Jean Jeffords
Telephone: 904/633-3850

(SMSA: Miami)
Metropolitan Dade County Office of
County Manager
Miami, Florida 33130
Contact: Mr. Joseph Malone
Telephone: 305/377-5201

(SMSA: Tallahassee)
Tallahassee-Leon County Planning
Department
Tallahassee, Florida 32302
Contact: Ms. Barbara Anderson
Telephone: 904/222-8446

(SMSA: Tampa - St. Petersburg)
Tampa Bay Regional Planning Council
St. Petersburg, Florida 33713
Contact: Mr. Brooks Atherton
Telephone: 813/898-0891

(SMSA: West Palm Beach - Boca Raton)
Area Planning Board of Palm Beach
County
West Palm Beach, Florida 33402
Contact: Mr. Paul Larsen
Telephone: 305/655-5200

GEORGIA

(SMSA: Albany)
Albany Planning Commission
Albany, Georgia 31702
Contact: Mr. Samual J. Meltz
Telephone: 912/435-2216

(SMSA: Atlanta)
Atlanta Regional Commission
Atlanta, Georgia 30303
Contact: Ms. Trina Jackson
Telephone: 404/522-7577

(SMSA: Augusta, Ga. - South Carolina)
Augusta-Richmond County Planning
Commission
Augusta, Georgia 30901
Contact: Mr. Dayton L. Sherrouse
Telephone: 404/724-4391 ext. 237

(SMSA: Columbus, Ga. - Alabama)
Department of Community Development
Columbus, Georgia 31902
Contact: Mr. Robert E. Gerber
Telephone: 404/322-6761

(SMSA: Macon)
Middle Georgia Area Planning Commission
Macon, Georgia 31201
Contact: Mr. Charles Howell
Telephone: 912/743-5862

(SMSA: Savannah)
Chatham County-Savannah Metropolitan
Planning Commission
Savannah, Georgia 31402
Contact: Mr. Jim Woolen
Telephone: 912/236-9523

HAWAII

(SMSA: Honolulu)
State Department of Transportation
Honolulu, Hawaii 96813
Contact: Mr. James Tanaka
Telephone: 808/548-6526

IDAHO

(SMSA: Boise City)
Boise State College, Center for Business
and Economic Research
Boise, Idaho 83725
Contact: Dr. Richard K. Hart
Telephone: 208/385-1571

ILLINOIS

(SMSA: Champaign - Urbana - Rantoul)
Champaign County Regional Planning Commission
Urbana, Illinois 61801
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Telephone: 217/328-3313

(SMSA: Chicago)
Northeastern Illinois Planning Commission
Chicago, Illinois 60606
Contact: Mr. Charles Peters
Telephone: 312/454-0400

(SMSA: Peoria)
Tri-County Regional Planning Commission
East Peoria, Illinois 61611
Contact: Mr. Ronald E. Drain
Telephone: 309/694-4391

(SMSA: Rockford)
City-County Planning Commission
Rockford-Winnebago County
Rockford, Illinois 61104
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Telephone: 815/965-4711

INDIANA

(SMSA: Evansville, Ind. - Kentucky)
Southwestern Indiana and Kentucky Regional
Council of Governments
Evansville, Indiana 47708
Contact: Mr. Leonard Elpers
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(SMSA: Fort Wayne)
The Three Rivers Coordinating Council
Fort Wayne, Indiana 46802
Contact: Mr. Dennis Strohbusch
Telephone: 219/423-7309

(SMSA: Gary - Hammond - East Chicago)
See Chicago

(SMSA: Indianapolis)
Unified Statistical Evaluation Study
Indianapolis, Indiana 46204
Contact: Mr. John Rowe
Telephone: 317/633-6186

(SMSA: Muncie)
Delaware-Muncie Metropolitan Planning Commission
Muncie, Indiana 47305
Contact: Mr. A. E. Suro
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(SMSA: South Bend)
Area Plan Commission of St. Joseph County
South Bend, Indiana 46601
Contact: Mr. Richard Johnson
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(SMSA: Terre Haute)
Area Planning Department for Vigo County
Terre Haute, Indiana 47807
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IOWA

(SMSA: Cedar Rapids)
Linn County Regional Planning Agency
Cedar Rapids, Iowa 52401
Contact: Mr. Donald B. Salyer
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(SMSA: Davenport - Rock Island - Moline, Iowa - Illinois)
Bi-State Metropolitan Planning Commission
Rock Island, Illinois 61201
Contact: Mr. Glen Erickson
Telephone: 309/788-6338

(SMSA: Des Moines)
Central Iowa Regional Association of Local Governments
Des Moines, Iowa 50309
Contact: Mr. Gary Pryor
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(SMSA: Dubuque)
Dubuque County Metropolitan Area Planning Commission
Dubuque, Iowa 52001
Contact: Mr. Karl E. Biasi
Telephone: 319/556-3456

(SMSA: Sioux City, Iowa - Nebraska)
Siouxland Interstate Metropolitan Planning Council
Sioux City, Iowa 51102
Contact: Mr. Donald M. Meisner
Telephone: 712/277-8581

(SMSA: Waterloo - Cedar Falls)
Iowa Northland Regional Council of Governments
Waterloo, Iowa 50701
Contact: Mr. Kenneth E. Lind
Telephone: 319/235-0311

KANSAS

(SMSA: Topeka)
Topeka-Shawnee Metropolitan Planning Commission
Topeka, Kansas 66603
Contact: Mr. Jon M. Woodward
Telephone: 913/357-1241 ext. 412

(SMSA: Wichita)
Wichita-Sedgwick County Metropolitan Area Planning Department
Wichita, Kansas 67202
Contact: Mr. Willard L. Stockwell
Telephone: 316/262-0611 ext. 205

KENTUCKY

(SMSA: Lexington)
City-County Planning Commission
Lexington, Kentucky 40507
Contact: Ms. Martha Alexander
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(SMSA: Louisville, Kentucky - Indiana)
Louisville Metropolitan Comprehensive Transportation and Development Program
Jeffersonville, Indiana 47130
Contact: Mr. Richard Shogren
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LOUISIANA

(SMSA: Baton Rouge)
Capital Region Planning Commission
Baton Rouge, Louisiana 70801
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(SMSA: Monroe)
Ouachita Council of Governments
Monroe, Louisiana 71201
Contact: Mr. William D. Berton, Jr.
Telephone: 318/387-3521

(SMSA: New Orleans)
Regional Planning Commission
New Orleans, Louisiana 70130
Contact: Mr. LeRoy D. Dauterive
Telephone: 504/523-1432

(SMSA: Shreveport)
Caddo-Bossier Council of Local Governments
Shreveport, Louisiana 71130
Contact: Mr. D. Raymond Smith
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MAINE

(SMSA: Lewiston-Auburn)
City of Lewiston Planning Department
Lewiston, Maine 04240
Contact: Mr. Malcolm Carey
Telephone: 207/784-4244

(SMSA: Portland)
Greater Portland Council of Governments
South Portland, Maine 04106
Contact: Mr. William O. Rogers
Telephone: 207/799-8523

MARYLAND

(SMSA: Baltimore)
Regional Planning Council
Baltimore, Maryland 21202
Contact: Mr. Fredrick Westerfield
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MASSACHUSETTS

(SMSA: Boston)
State Highway Department, Department of Public Works, Bureau of Transportation Planning and Development
Boston, Massachusetts 02114
Contact: Mr. Walter Kondo
Telephone: 617/727-7716

(SMSA: Brockton)
Office of the City Planner
Brockton, Massachusetts 02401
Contact: Mr. Charles Stevenson
Telephone: 617/584-4103

(SMSA: Fall River)
Fall River Planning Board
Fall River, Massachusetts 02720
Contact: Mr. Harold Connell
Telephone: 617/677-9487 or 677-9940

(SMSA: Fitchburg - Leominster)
Planning Board
Fitchburg, Massachusetts 02104
Contact: Mr. Robert W. Pollock, Jr.
Telephone: 617/343-9265

(SMSA: Lawrence - Haverhill, Mass. - New Hampshire)
Division of Planning and Development
Haverhill, Massachusetts 01830
Contact: Mr. Daniel L. Pascoe
Telephone: 617/373-1324

(SMSA: Lowell, Mass. - New Hampshire)
Lowell City Development Authority
Lowell, Massachusetts 01852
Contact: Mr. Bruce Hahl
Telephone: 617/458-8766

(SMSA: New Bedford)
City Planning Department
New Bedford, Massachusetts 02740
Contact: Mr. Benjamin B. Baker
Telephone: 617/999-2931 ext. 261 or 262

(SMSA: Pittsfield)
Pittsfield City Planning Board
Pittsfield, Massachusetts 01201
Contact: Ms. Merel S. Deane
Telephone: 413/499-1100 ext. 58 or 59

(SMSA: Springfield - Chicopee - Holyoke, Mass. - Connecticut)
Springfield Planning Department
Springfield, Massachusetts 01103
Contact: Mr. James Controvich
Telephone: 413/736-2711 ext. 362

(SMSA: Worcester)
Worcester City Planning Department
Worcester, Massachusetts 01608
Contact: Mr. Francis J. Donahue
Telephone: 617/798-8151 ext. 252

MICHIGAN

(SMSA: Ann Arbor)
Washtenaw County Planning Commission
Ann Arbor, Michigan 48108
Contact: Mr. Joseph Hoadley
Telephone: 313/663-7511 ext. 313

(SMSA: Bay City)
Bay Regional Planning Commission
Bay City, Michigan 48706
Contact: Mr. William A. Lynch
Telephone: 517/894-2491

(SMSA: Detroit)
Southeast Michigan Council of Governments
Detroit, Michigan 48225
Contact: Mr. Charles Bradley
Telephone: 313/961-4266

(SMSA: Flint)
Genesee County Metropolitan Planning Commission
Flint, Michigan 48502
Contact: Ms. Paula Gavulic
Telephone: 313/766-8865

(SMSA: Kalamazoo - Portage)
Kalamazoo Metropolitan County Planning Commission
Kalamazoo, Michigan 49006
Contact: Mr. Bruce A. Watts
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(SMSA: Lansing - East Lansing)
Tri-County Regional Planning Commission
Lansing, Michigan 48912
Contact: Mr. Herbert D. Maier
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(SMSA: Saginaw)
Office of the County Planner
Saginaw, Michigan 48602
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MINNESOTA

(SMSA: Duluth - Superior, Minn. - Wisconsin)
Head of the Lakes Council of Governments
Duluth, Minnesota 55802
Contact: Mr. Sandy Sweeney
Telephone: 218/727-4522 ext. 237

(SMSA: Minneapolis - St. Paul, Minn. - Wisconsin)
Metropolitan Council of the Twin Cities Area
St. Paul, Minnesota 55101
Contact: Mr. Regis Voye
Telephone: 612/227-9421 ext. 276

MISSISSIPPI

(SMSA: Biloxi - Gulfport)
Gulf Regional Planning Commission
Gulfport, Mississippi 39501
Contact: Mr. Jack Different
Telephone: 601/864-1167

(SMSA: Jackson)
Jackson City Planning Board
Jackson, Mississippi 39205
Contact: Donald L. Irvin
Telephone: 601/354-2336

MISSOURI

(SMSA: Kansas City, Missouri - Kansas)
Mid-America Regional Council
Kansas City, Missouri 64105
Contact: Mr. Truman Cleveland
Telephone: 816/474-4240

(SMSA: St. Joseph)
Greater St. Joseph and Buchanan County Planning Commission
St. Joseph, Missouri 64501
Contact: Mr. Lorin A. Dunham
Telephone: 816/233-0275

(SMSA: St. Louis, Missouri - Illinois)
East-West Gateway Coordinating Council
St. Louis, Missouri 63101
Contact: Mr. Eugene G. Moody
Telephone: 618/274-2750

(SMSA: Springfield)
Zoning and Planning Commission
Springfield, Missouri 65802
Contact: Mr. Hew Wiley
Telephone: 417/865-1611 ext. 51

MONTANA

(SMSA: Billings)
Billings-Yellowstone, City-County Planning Board
Billings, Montana 59101
Contact: Mr. Bill Banks
Telephone: 406/252-5181 ext. 285

(SMSA: Great Falls)
Great Falls City-County Planning Board
Great Falls, Montana 59403
Contact: Mr. Glen Floerchinger
Telephone: 406/452-8561

NEBRASKA

(SMSA: Lincoln)
Lincoln City-Lancaster County Planning Department
Lincoln, Nebraska 68508
Contact: Mr. Verl R. Borg
Telephone: 402/473-6491

(SMSA: Omaha, Nebraska - Iowa)
Omaha-Council Bluffs Metropolitan Area Planning Agency
Omaha, Nebraska 68106
Contact: Mr. Stephen Kinzy
Telephone: 402/397-0330

NEVADA

(SMSA: Las Vegas)
State of Nevada Department of Highways
Carson City, Nevada 89701
Contact: Mr. George Westenhoefer
Telephone: 702/882-7080

(SMSA: Reno) See Las Vegas

NEW HAMPSHIRE

(SMSA: Manchester)
Southern New Hampshire Planning Commission
Manchester, New Hampshire 03101
Contact: Mr. W. Ray Walker
Telephone: 603/669-4664

(SMSA: Nashua)
Department of Public Works and Highways
Concord, New Hampshire 03301
Contact: Mr. James M. Langley
Telephone: 603/271-3281

NEW JERSEY

(SMSA: Trenton) See Philadelphia, Pa.

NEW MEXICO

(SMSA: Albuquerque)
Middle Rio Grande Council of Governments
of New Mexico
Albuquerque, New Mexico 87101
Contact: Mr. Dale G. Glass
Telephone: 505/243-2819

NEW YORK

(SMSA: Binghamton, N. Y. - Pennsylvania)
Southern Tier East Regional Planning Board
Binghamton, New York 13901
Contact: Mr. Joseph M. Missavage
Telephone: 607/772-2114

(SMSA: Nassau - Suffolk)
Nassau-Suffolk Regional Planning Board and
Nassau-Suffolk Regional Marine Resources
Council
Hauppauge, L. I., New York 11787
Contact: Mr. Lee E. Koppelman
Telephone: 516/979-2922 or 724-1919

(SMSA: Rochester)
Genesee Finger Lakes Regional Planning
Board
Rochester, New York 14614
Contact: Dr. Stuart O. Denslow
Telephone: 716/232-1060

(SMSA: Utica - Rome)
Herkimer-Oneida Counties Comprehensive
Planning Program
Utica, New York 13501
Contact: Mr. James G. Kennedy
Telephone: 315/798-5710

NORTH CAROLINA

(SMSA: Asheville)
Metropolitan Planning Board
Asheville, North Carolina 28807
Contact: Mr. Thomas Wood
Telephone: 704/255-5206

(SMSA: Charlotte)
City of Charlotte
Charlotte, North Carolina 28204
Contact: Mr. Mike Weaver
Telephone: 704/374-2914

(SMSA: Durham)
Management Information Systems
Durham, North Carolina 27702
Contact: Mr. Mark Webbink
Telephone: 919/688-6331

(SMSA: Fayetteville)
Cumberland County Joint Planning Board
Fayetteville, North Carolina 28305
Contact: Mr. D. Parker Lynch
Telephone: 919/484-1106

(SMSA: Gastonia)
Gastonia Regional Planning Commission
Gastonia, North Carolina 28052
Contact: Mr. Gary D. Hicks
Telephone: 704/864-3211

(SMSA: Raleigh)
Office of City Planning
Raleigh, North Carolina 27602
Contact: Mr. A.C. Hall, Jr.
Telephone: 919/755-6494

NORTH DAKOTA

(SMSA: Fargo - Moorhead, North Dakota - Minnesota)
Metropolitan Council of Governments
Moorhead, Minnesota 56560
Contact: Mr. Francis Chichester
Telephone: 218/233-1222

OHIO

(SMSA: Akron)
Center for Urban Studies, University of Akron
Akron, Ohio 44304
Contact: Mr. Allen Pearson
Telephone: 216/375-7618

(SMSA: Canton)
Stark County Area Transportation Study
Canton, Ohio 44702
Contact: Mr. J. Dale Cawthorne
Telephone: 216/454-5651

(SMSA: Cincinnati, Ohio - Kentucky - Indiana)
Ohio-Kentucky-Indiana Regional Planning Authority
Cincinnati, Ohio 45202
Contact: Mr. Michael L. Plett
Telephone: 513/621-7060

(SMSA: Cleveland)
Northeast Ohio Areawide Coordinating Agency
Cleveland, Ohio 44114
Contact: Mr. Anthony Ma
Telephone: 216/241-2414

(SMSA: Columbus)
Mid-Ohio Regional Planning Commission
Columbus, Ohio 43215
Contact: Ms. Eileen Flowers
Telephone: 614/228-2663

(SMSA: Dayton)
Community Planning and Management Program
Dayton, Ohio 45402
Contact: Mr. Greg Cook
Telephone: 513/225-5002

(SMSA: Hamilton - Middleton)
See Cincinnati

(SMSA: Lima)
Lima-Allen County Regional Planning Commission
Lima, Ohio 45801
Contact: Mr. Ken Betche
Telephone: 419/228-1836

(SMSA: Lorain - Elyria)
Lorain County Regional Planning Commission
Elyria, Ohio 44035
Contact: Mr. Richard W. McGinnis
Telephone: 216/323-5776

(SMSA: Springfield)
Clark County-Springfield Regional Planning Commission
Springfield, Ohio 45501
Contact: Mr. James D. Hawley
Telephone: 513/325-9031 or 325-0511

(SMSA: Steubenville - Weirton, Ohio - West Virginia)
Brooke-Hancock-Jefferson Metropolitan Planning Commission
Weirton, West Virginia 26062
Contact: Mr. Robert W. Wirgau
Telephone: 304/748-1424

(SMSA: Toledo, Ohio - Michigan)
Toledo-Lucas County Plan Commissions
Toledo, Ohio 43604
Contact: Mr. Eugene H. Naujock
Telephone: 419/255-1500 ext. 412

(SMSA: Warren)
Trumbull County Planning Commission
Warren, Ohio 44481
Contact: Ms. Marianne Ginther
Telephone: 216/399-8811 ext. 251

(SMSA: Youngstown)
County of Mahoning Planning Commission
Youngstown, Ohio 44503
Contact: Mr. William A. Lewis
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OKLAHOMA

(SMSA: Lawton)
Lawton Metropolitan Area Planning Commission
Lawton, Oklahoma 73501
Contact: Mr. Walter Belland
Telephone: 405/357-6100 ext. 316

(SMSA: Oklahoma City)
Association of Central Oklahoma Governments
Oklahoma City, Oklahoma 73103
Contact: Mr. Philip Waring
Telephone: 405/235-9651

(SMSA: Tulsa)
Tulsa Metropolitan Area Planning Commission
Tulsa, Oklahoma 74103
Contact: Mr. Gordon K. Joens
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OREGON

(SMSA: Eugene - Springfield)
Lane Council of Governments
Eugene, Oregon 97401
Contact: Mr. Marshall Dix
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(SMSA: Portland, Oregon - Washington)
Columbia Region Association of Governments
Portland, Oregon 97221
Contact: Mr. Richard Hegdahl
Telephone: 503/297-3726

(SMSA: Salem)
Mid-Willamette Valley Council of Governments
Salem, Oregon 97301
Contact: Ms. Ann Mounteer
Telephone: 503/588-6177

PENNSYLVANIA

(SMSA: Allentown - Bethlehem - Easton, Pa. - New Jersey)
Joint Planning Commission: Lehigh-Northampton Counties
Lehigh Valley, Pennsylvania 18103
Contact: Mr. Glenn M. Taggart
Telephone: 215/264-4544

(SMSA: Altoona)
Blair County Planning Commission
Hollidaysburg, Pennsylvania 16648
Contact: Mr. Richard C. Sutter
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(SMSA: Erie)
Erie County Metropolitan Planning Commission
Erie, Pennsylvania 16501
Contact: Mr. Christopher Capotis
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(SMSA: Johnstown)
Cambria County Planning Commission
Ebensburg, Pennsylvania 15931
Contact: Mr. T. Fred Young
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(SMSA: Scranton)
Lackawanna County Regional Planning Commission
Scranton, Pennsylvania 18503
Contact: Mr. Frank Kuna
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(SMSA: Philadelphia, Pa. - New Jersey)
Delaware Valley Regional Planning Commission
Philadelphia, Pennsylvania 19103
Contact: Mr. Walter K. Johnson
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(SMSA: Pittsburgh)
Southwestern Pennsylvania Regional Planning Commission
Pittsburgh, Pennsylvania 15219
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(SMSA: Reading)
City of Reading
Reading, Pennsylvania 19601
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(SMSA: Wilkes-Barre - Hazleton)
Luzerne County Planning Commission
Wilkes-Barre, Pennsylvania 18711
Contact: Mr. Frank Chadwick
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(SMSA: York)
York County Planning Commission
York, Pennsylvania 17403
Contact: Mr. John Kurtz
Telephone: 717/843-9954

PUERTO RICO

(SMSA: San Juan)
Puerto Rico Planning Board
Santurce, Puerto Rico 00908
Contact: Mr. Jaime L. Lynn
Telephone: 809/725-6200

RHODE ISLAND

(SMSA: Providence - Warwick - Pawtucket, Rhode Island - Massachusetts)
Statewide Planning Program
Providence, Rhode Island 02907
Contact: Mr. Jerome Lessuck
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SOUTH CAROLINA

(SMSA: Charleston)
County of Charleston Planning Board
Charleston, South Carolina 29401
Contact: Mr. C.M. Pugh
Telephone: 803/577-7800

(SMSA: Columbia)
Central Midlands Regional Planning Council
Columbia, South Carolina 29201
Contact: Mr. James Burwell
Telephone: 803/779-8300

(SMSA: Greenville)
Greenville County Health Department
Greenville, South Carolina 29602
Contact: Mr. Mike Hall
Telephone: 803/242-6160

(SMSA: Spartanburg)
Spartanburg County Planning and
Development Commission
Spartanburg, South Carolina 29301
Contact: Mr. Theodore Parker
Telephone: 803/585-5297

SOUTH DAKOTA

(SMSA: Sioux Falls)
City Planning Department
Sioux Falls, South Dakota 57102
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TENNESSEE

(SMSA: Chattanooga, Tennessee - Georgia)
Chattanooga-Hamilton County Regional
Planning Commission
Chattanooga, Tennessee 37402
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(SMSA: Knoxville)
Knoxville/Knox County Metropolitan Planning
Commission
Knoxville, Tennessee 37902
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(SMSA: Memphis, Tennessee - Arkansas -
Mississippi)
Memphis and Shelby County Planning Commission
Memphis, Tennessee 38103
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TEXAS

(SMSA: Abilene)
West Central Texas Council of Governments
Abilene, Texas 79604
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(SMSA: Amarillo)
Panhandle Regional Planning Commission
Amarillo, Texas 79105
Contact: Mr. Ernest R. Clark
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(SMSA: Austin)
Austin City Planning Department
Austin, Texas 78767
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(SMSA: Beaumont - Port Arthur - Orange)
South East Texas Regional Planning
Commission
Nederland, Texas 77627
Contact: Mr. John Wasser
Telephone: 713/833-2384

(SMSA: Brownsville - Harlingen - San
Benito)
Planning and Zoning Commission
Harlingen, Texas 78550
Contact: Mr. F.L. Flynn
Telephone: 512/423-4230 ext. 33

(SMSA: Corpus Christi)
Coastal Bend Council of Governments
Corpus Christi, Texas 78408
Contact: Mr. Robert R. Weaver
Telephone: 512/884-3911

(SMSA: Dallas)
Department of Planning and Urban Development
Dallas, Texas 75201
Contact: Mr. Mike Kennedy
Telephone: 214/744-4371

(SMSA: El Paso)
Department of Planning and Research
El Paso, Texas 79901
Contact: Mr. Ergenio Alcantar
Telephone: 915/543-6016

(SMSA: Fort Worth)
Planning Department
Fort Worth, Texas 76102
Contact: Mr. Darrell Noe
Telephone: 817/335-7211

(SMSA: Galveston - Texas City)
See Houston

(SMSA: Houston)
Houston-Galveston Area Council
Houston, Texas 77027
Contact: Dr. Joe W. Pyle
Telephone: 713/627-3200

(SMSA: Laredo)
City Planning and Zoning Commission
Laredo, Texas 78040
Contact: Mr. Amando Garza
Telephone: 512/722-5221

(SMSA: Lubbock)
Planning and Zoning Board
Lubbock, Texas 79457
Contact: Mr. James E. Bertram
Telephone: 806/762-6411 ext. 380

(SMSA: McAllen - Pharr - Edinburg)
Planning and Zoning Commission
McAllen, Texas 78501
Contact: Mr. Joseph Morrow
Telephone: 512/686-6551

(SMSA: Midland)
Planning Department, City of Midland
Midland, Texas 79701
Contact: Mr. George L. Wolf
Telephone: 915/683-4281

(SMSA: Odessa)
Odessa Planning Department
Odessa, Texas 79760
Contact: Mr. Arthur F. Lish
Telephone: 915/337-7381 ext. 271

(SMSA: San Angelo)
Concho Valley Council of Governments
San Angelo, Texas 76901
Contact: Mr. James F. Ridge
Telephone: 915/653-1214

(SMSA: San Antonio)
Alamo Area Council of Governments
San Antonio, Texas 78205
Contact: Mr. Dave A. Vogel
Telephone: 512/225-5201 ext. 29

(SMSA: Sherman - Denison)
Texoma Regional Planning Commission
Denison, Texas 75020
Contact: Mr. Jerry W. Chapman
Telephone: 214/465-3220

(SMSA: Texarkana, Texas - Texarkana, Arkansas)
Ark-Tex Council of Governments
Texarkana, Texas 75501
Contact: Mr. Franze M. Gourley
Telephone: 214/794-3481

(SMSA: Tyler)
City Planning Department
Tyler, Texas 75701
Contact: Mr. Charles F. Feris, Jr.
Telephone: 214/597-6651 ext. 78

(SMSA: Waco)
Waco City Planning Department
Waco, Texas 76703
Contact: Mr. Bob Anz
Telephone: 817/756-6161 ext. 367

(SMSA: Wichita Falls)
Nortex Regional Planning Commission
Wichita Falls, Texas 76309
Contact: Mr. Jerry Dunn
Telephone: 817/322-5611 ext. 228

UTAH

(SMSA: Provo - Orem)
Utah County Council of Governments
Provo, Utah 84601
Contact: Mr. Carl M. Johnson
Telephone: 801/373-5510 ext. 211

(SMSA: Ogden)
Weber Area Council of Governments
Ogden, Utah 84401
Contact: Mr. Ron Kapalka
Telephone: 801/399-8201

(SMSA: Salt Lake City)
Salt Lake County
Salt Lake City, Utah 84115
Contact: Mr. Clayne J. Ricks
Telephone: 801/328-7461

VIRGINIA

(SMSA: Lynchburg)
Central Virginia District Planning Commission
Lynchburg, Virginia 24501
Contact: Mr. Harry Jarvis
Telephone: 804/846-2781

(SMSA: Newport News - Hampton)
Office of City Planning Commission
Hampton, Virginia 23669
Contact: Mr. Thomas Norris
Telephone: 804/723-6011

(SMSA: Roanoke)
Fifth Planning District Commission
Roanoke, Virginia 24010
Contact: Mr. James M. Colby
Telephone: 703/362-3777

WASHINGTON

(SMSA: Seattle - Everett)
Puget Sound Governmental Conference
Seattle, Washington 98104
Contact: Mr. Jan Solga
Telephone: 206/464-7090

(SMSA: Spokane)
Spokane Regional Planning Conference/City Planning Department
Spokane, Washington 99201
Contact: Mr. Robert Schley
Telephone: 509/456-4375

(SMSA: Tacoma) See Seattle

WEST VIRGINIA

(SMSA: Charleston)
Kanawha County Planning Commission
Charleston, West Virginia 25301
Contact: Mr. David Bostic
Telephone: 304/348-7150

(SMSA: Huntington - Ashland, West Va. - Kentucky - Ohio)
KYOVA Interstate Planning Commission
Huntington, West Virginia 25701
Contact: Mr. Ray Crabtree
Telephone: 304/523-7434

(SMSA: Wheeling, West Va. - Ohio)
Bel-O-Mar Interstate Planning Commission
Wheeling, West Virginia 26003
Contact: Mr. James L. Weaver
Telephone: 304/242-1800

(SMSA: Weirton)
Brooke-Hancock-Jefferson Metropolitan Planning Commission
Weirton, West Virginia 26062
Contact: Mr. Robert W. Wirgau
Telephone: 304/748-1424

WISCONSIN

(SMSA: Appleton - Oshkosh)
East Central Wisconsin Regional Planning Commission
Appleton, Wisconsin 54911
Contact: Mr. Roy C. Willey, Jr.
Telephone: 414/739-6156

(SMSA: Green Bay)
Rand Corporation
Santa Monica, California 90406
Contact: Mr. Al Rosenthal
Telephone: 213/393-0411

(SMSA: Kenosha)
See Milwaukee

(SMSA: Madison)
Dane County Regional Planning Commission
Madison, Wisconsin 53709
Contact: Mr. Charles Montemayor
Telephone: 608/266-4137

(SMSA: Milwaukee)
Southeastern Wisconsin Regional Planning Commission
Waukesha, Wisconsin 53186
Contact: Mr. K. W. Bauer
Telephone: 414/547-6721

(SMSA: Racine)
See Milwaukee

LOCAL ACG CONTACTS:
BY STATE AND SMSA*

ARIZONA

(SMSA: Phoenix)
Maricopa Association of Governments
Tempe, Arizona 85282
Contact: Mr. C. R. Brady
Telephone: 602/967-7559

CALIFORNIA

(SMSA: Riverside - San Bernadino - Ontario)
Riverside County Planning Department
Riverside, California 92501
Contact: Mr. William R. Livingstone
Telephone: 714/787-6181

CONNECTICUT

(SMSA: Bridgeport)
The Greater Bridgeport Regional Planning Agency
Trumbull, Connecticut 06611
Contact: Mrs. Mary B. Sowchuk
Telephone: 203/268-0014

(SMSA: Meriden)
City Planning Commission
Meriden, Connecticut 06450
Contact: Mr. Harry S. Eberhard, Jr.
Telephone: 203/238-2611

(SMSA: New Haven - West New Haven)
Regional Planning Agency of South Central Connecticut
New Haven, Connecticut 06510
Contact: Mr. Norris C. Andrews
Telephone: 203/777-4795

(SMSA: New London - Norwich, Conn. - Rhode Island)
Southeastern Connecticut Regional Planning Agency
Norwich, Connecticut 06360
Contact: Mr. Richard B. Erickson
Telephone: 203/889-2324

(SMSA: Norwalk)
Southwestern Regional Planning Agency
Rowayton, Connecticut 06853
Contact: Mr. Richard C. Carpenter
Telephone: 203/866-5543

(SMSA: Waterbury)
Central Naugatuck Valley Regional Planning Agency
Waterbury, Connecticut 06702
Contact: Mr. Duncan M. Graham
Telephone: 203/757-0535

*From the Geography Division, U.S. Bureau of the Census, June 1974.

FLORIDA

(SMSA: Orlando)
East Central Florida Regional Planning Council
Winter Park, Florida 32739
Contact: Mr. William C. Kercher, Jr.
Telephone: 305/645-3339

(SMSA: Pensacola)
Escambia-Santa Rosa Regional Planning Council
Pensacola, Florida 32502
Contact: Mr. Daniel F. Krumel
Telephone: 904/434-1027

ILLINOIS

(SMSA: Bloomington - Normal)
McLean County Regional Planning Commission
Bloomington, Illinois 61701
Contact: Mr. Herman Dirks
Telephone: 309/828-4331

(SMSA: Decatur)
Department of Community Development
Decatur, Illinois 62523
Contact: Mr. Frank E. Beaman
Telephone: 217/424-2793

(SMSA: Springfield)
Springfield-Sangamon County Regional Planning Commission
Springfield, Illinois 62701
Contact: Mr. Bradley B. Taylor
Telephone: 217/789-2000

INDIANA

(SMSA: Anderson)
City Planning Department
Anderson, Indiana 46011
Contact: Mr. Don McCarty
Telephone: 317/646-5811

MICHIGAN

(SMSA: Grand Rapids)
Kent Ottawa Regional Planning Commission
Grand Rapids, Michigan 49502
Contact: Mr. Robert Stockman
Telephone: 616/456-3731

(SMSA: Jackson)
Jackson Metropolitan Area Regional Planning Commission
Jackson, Michigan 49201
Contact: Mr. Frederick L. Barkley
Telephone: 517/787-3800 ext. 256

(SMSA: Muskegon)
West Michigan Shoreline Regional Planning Commission
Muskegon, Michigan 49440
Contact: Mr. Roderick T. Dittmer
Telephone: 616/724-6441

NEW JERSEY

(SMSA: Atlantic City)
Atlantic County Planning Department
Northfield, New Jersey 08225
Contact: Mr. John R. Gideonse
Telephone: 609/646-7502

(SMSA: Jersey City) See New York, N.Y.

(SMSA: Newark) See New York, N.Y.

(SMSA: Paterson - Clifton - Passaic)
See New York, N.Y.

(SMSA: Vineland - Millville - Bridgeton)
Cumberland County Planning Board
Bridgeton, New Jersey 08302
Contact: Mr. John J. Holland
Telephone: 609/451-8000

NEW YORK

(SMSA: Albany - Schenectady - Troy)
Capital District Regional Planning Commission
Albany, New York 12203
Contact: Ms. Beverly S. Pasley
Telephone: 518/371-4646

(SMSA: Binghamton, New York - Pa.)
Southern Tier East Regional Planning Board
Binghamton, New York 13901
Contact: Mr. Joseph M. Missavage
Telephone: 607/772-2114

(SMSA: Buffalo)
Frontier Transportation
Committee
Buffalo, New York 14202
Contact: Mr. Edward Small, Jr.
Telephone: 716/856-2026

(SMSA: New York, N.Y. - New Jersey)
Tri-State Regional Planning Commission
New York, New York 10007
Contact: Mr. William Harting
Telephone: 212/433-5212

(SMSA: Syracuse)
Syracuse-Onondaga Planning Agency
Syracuse, New York 13202
Contact: Mr. William O. Thomas
Telephone: 315/477-7311

NORTH CAROLINA

(SMSA: Greensboro - Highpoint)
Guilford County Planning Department
Greensboro, North Carolina 27402
Contact: Mr. Perttu H. Virtanen
Telephone: 919/273-3611

(SMSA: Winston-Salem)
City-County Planning Board
Winston-Salem, North Carolina 27102
Contact: Mr. J.B. Rouzie, Jr.
Telephone: 919/727-2087

OHIO

(SMSA: Mansfield)
Richland County Regional Planning Commission
Mansfield, Ohio 44902
Contact: Mr. John R. Swanson
Telephone: 419/522-9454

PENNSYLVANIA

(SMSA: Harrisburg)
Tri-County Regional Planning Commission
Harrisburg, Pennsylvania 17102
Contact: Mr. Oliver M. Fanning
Telephone: 717/234-2639

(SMSA: Lancaster)
Lancaster County Planning Commission
Lancaster, Pennsylvania 17602
Contact: Mr. John R. Ahlfeld
Telephone: 717/397-2819

TENNESSEE

(SMSA: Nashville - Davidson)
Metropolitan Planning Commission
Nashville, Tennessee 37202
Contact: Mr. Joseph R. Haas
Telephone: 615/747-4711

VIRGINIA

(SMSA: Norfolk - Virginia Beach - Portsmouth, Va. - N.C.)
Department of City Planning
Norfolk, Virginia 23501
Contact: Mr. Jim Stacey
Telephone: 804/441-2375

(SMSA: Richmond)
Office of City Manager
Richmond, Virginia 23219
Contact: Mr. Daniel W. Allen
Telephone: 804/644-8586

GETTING IT TOGETHER:

Local Coordination for DIME File Use

"... In order to prevent the generation of many different versions of the file, the Planning Department will be responsible for updates and additions to the file. This will ensure coordination of file maintenance and the Metropolitan Map Series updates within the city organizations and with the Census Bureau..."

Willard L. Stockwell
Chief Planner
Advance Plans Division
Wichita-Sedgewick County
Metropolitan Area Planning
Department
104 South Main
Wichita, Kansas 67202

GETTING IT TOGETHER: LOCAL COORDINATION FOR DIME FILE USE

Although correcting, updating and maintaining the DIME files requires a substantial investment the effort can be quite modest if it is done annually. Often, however, the resources necessary to do the job right are not available from a single source. Numerous cities are reporting the creation of DIME user groups of local committees to pool resources and share the benefits of having a current, operational DIME file available for local use.

This section includes highlights of activities designed to promote local cooperation in the maintenance and use of the DIME files.

January 1974

ALABAMA, Montgomery

State of Alabama Highway Department
11 South Union Street
Contact: John Skinner
Telephone: 205/269-6576

". . . We are now and have plans for the future to coordinate all data output with the local agencies for each SMSA and with the Federal Highway Administration as a part of the transportation planning process for each of our urban areas of Montgomery, Mobile, Huntsville, Gadsden, Tuscaloosa and Birmingham . . ."

CALIFORNIA, San Jose

Santa Clara County Center for Urban Analysis
19 County Administration Building
70 West Hedding Street
Contact: Richard W. Renshaw
Telephone: 408/299-3285

February 1974

"Plans anticipate coordinating the DIME file maintenance with Planning Department maintenance of the Census Tract Street Index (CTSI) and the County Property Location Index (PLI - a parcel-situs address list). Long-range plans anticipate it could be coordinated with the Registrar of Voters precinct coding guide, County Communications dispatch records and Public Works Departments base map maintenance program."

KANSAS, Wichita

January 1974

Wichita-Sedgwick County Metropolitan
Area Planning Department
104 South Main
Contact: Willard L. Stockwell
Telephone: 316/262-0611

"Several local agencies have expressed an interest in maintaining and using DIME information. The Wichita Police and Fire Departments are developing on-line systems using address-keyed data. In order to prevent the generation of many different versions of the file, the Planning Department will be responsible for updates and additions to the file. This will ensure coordination of file maintenance and the Metropolitan Map Series updates within the city organizations and with the Census Bureau..."

MISSISSIPPI, Jackson

January 1974

Jackson City Planning Board
218 South President Street
Post Office Box 22568
Contact: Claude E. McCants
Telephone: 601/354-2336

"A data flows analysis study is underway and a prime consideration is the identification of all governmental, private and other organizations who maintain planning-related data files. These organizations are being asked to participate and success is expected because substantial cost reductions and elimination of duplication of effort will result.

"Preliminary indications are that the following governmental organizations will participate:

1. Hinds, Madison, Rankin, Capital City Council of Governments
2. Mississippi State Highway Department
3. Central Mississippi Planning and Development District"

NEVADA, Reno

April 1974

The Regional Planning Commission of Reno,
Sparks, and Washoe County
Post Office Box 1286
Contact: Stephen T. Bradhurst
Telephone: 702/323-8691

During the last two years Regional Planning Commission and Highway Department staff have held a number of formal and informal meetings to inform government and non-government organizations about the Reno DIME file and the proposed Regional Information System. One of the recommendations of the Regional Planning Commission is the formation of a Washoe County Data Base Committee.

The first step in forming this Committee will be a Washoe County Information Workshop to be conducted by the Highway Department and Regional Planning Commission within the next few months. Organizations expected to attend the workshop include the following:

1. Nevada Department of Conservation and Natural Resources
2. Nevada Employment and Security Department
3. Nevada Health, Welfare and Rehabilitation Department
4. Washoe County Assessor's Office
5. Washoe County Health and Welfare Department
6. Washoe County School Board
7. Economic Opportunity Board of Washoe County
8. Area Council of Governments
9. Local Law Enforcement Agencies

Users of the proposed Regional Information System would be any government or non-government organization handling, processing or analyzing data that is geographic in nature.

NEW MEXICO, Albuquerque January 1974

The Middle Rio Grande Council of Governments
Suite 1320
505 Marquette Avenue, N.W.
Contact: Dale G. Glass
Telephone: 505/243-2819

"Data output will be coordinated through the Albuquerque Urban/Regional Information Systems Committee which is composed of department representatives from the city, county and public schools. In addition, results of various activities are published for wide distribution and included in the monthly editions of the COG Newsletter..."

OHIO, Columbus

Mid-Ohio Regional Planning Commission January 1974
514 South High Street
Contact: Eileen Flowers
Telephone: 614/228-2663

". . .Mid-Ohio Regional Planning Commission and Columbus Department of Development have a need for similar local data files and in most cases similar output.

"Plans are being made to put the GBF Reference File on one system along with related data files such as population, land use, housing, etc., to be accessible to users. . ."

URISA SIG-GBF NEWSLETTER
Vol.2, No. 4 April 1974

COLUMBUS ANNOUNCES!!

"Columbus, Ohio (SMSA 1840) has a corrected and updated Geographic Base File (GBF) . . .

"The creation of the ACG and then the initial DIME file w a s accomplished through the combined efforts of the Bureau of the Census and Mid-Ohio Regional Planning Commission with the Census Bureau performing map maintenance and data processing and Mid-Ohio coding source documents for input . . .

"From the group of contributors, a Chamber committee was established with the responsibility of developing the GBF for Central Ohio. The Committee was composed of representatives of Mid-Ohio Regional Planning Commission, City of Columbus, Columbus Public Schools, two financial institutions, and the staff of the Columbus Area Chamber of Commerce.

"The GBF Committee began to function in mid-1972. As news of the Committee activities were circulated others became involved from:

(1) a radio station,
(2) banks,
(3) Battelle Memorial Institute,
(4) The Ohio State University
(5) the utilities
(6) ma...

"It has truly been a community effort. And having been a community effort here is what we have gained:

- A GBF
- A community-wide interest
- The possibility of a comprehensive planning tool
- An information file that will help business and community relate to one another
- We have begun an education process of certain business leaders showing what computerized information can do for them.
- We have opened the door for county wide integration of business, economic and social information.
- A willingness on the part of many individuals and organizations to discuss common problems.

"All of this has been accomplished as a result of correcting and updating our GBF and we expect to continue in operation on an on-going basis."

James R. Thomas
Vice-President/Research
Columbus Area Ch...

Center for Urban Studies
The University of Akron
Contact: Allen Pearson II
Telephone: 216/375-7616

A steering committee consisting of major local public and private agencies in the Akron area is participating in the development of the Akron Metropolitan Information System (AMIS). AMIS is viewed as a step toward providing a central base for the collection, dissemination and analysis of data for planning purposes.

Akron Area Agencies Involved with AMIS

Air Pollution Control Agency
Akron City Demonstration Agency
Akron City Health Department
Akron Hospital Council
Akron Metropolitan Area Transportation Study
Akron Public Library
Area Progress Board
Barberton Planning Department
City of Akron Department of Planning and Urban Renewal
Comprehensive Health Planning Agency
Home Builders Association of Greater Akron
Manpower Area Planning Council
Ohio Bureau of Employment Services
Summit County Council of Governments
Summit County Criminal Justice Commission
Summit County Juvenile Court
Summit County 648 Board (Mental Health and Retardation)
The University of Akron
Tri-County Regional Planning Commission
United Community Council of Summit County

City of Dayton
Office of the City Manager
Municipal Building, Third & Ludlow
Contact: Greg Cook
Telephone: 513/225-5520

"The Dayton DIME User's Group was formed to elicit support for the cleanup effort and to generate ideas for use of the DIME..."

DAYTON AREA DIME
USER'S GROUP
Active Members

Edward Anzek
Planner
City of Dayton-CPMP
4th Floor Municipal Building
101 West Third St.

Nanda Balwally
Transportation Planner
TCC
5th Floor Dayco Bldg.
333 West First St.

Fred Beard
Montgomery County Planning Commission
9th Floor Montgomery Admin. Bldg.
Montgomery County Government Plaza

Greg Cook
Systems Analyst
City of Dayton-CPMP
4th Floor Municipal Building
101 West Third St.

Francine Hochman
Planner
Montgomery County Planning Commission
9th Floor Montgomery Admin. Bldg.
Montgomery County Government Plaza

Paul Ireland
Planner
City of Kettering Planning Department
Kettering Government Plaza
3600 Shroyer Road
Kettering, Ohio

Connie Martin
Systems Analyst
Montgomery County Combined General Health District
Mezzanine Montgomery County Admin. Bldg.
Montgomery County Government Plaza

Larry Perrin
Chief Draftsman
MVRPC
5th Floor Dayco Bldg.
333 West First St.

Stacy Skaggs
Systems Analyst
Transportation Coordinating Committee
5th Floor Dayco Bldg.
333 West First St.

Gayle Wiley
Research Assistant
Miami Valley Regional Planning Council
333 West First St.

OHIO, Warren January 1974

The Trumbull County Planning Commission
160 High Street, N.W.
Contact: Edward L. Kutevac
Telephone: 216/399-8811 x251

"The Trumbull County Planning Commission has excellent cooperation with the Mahoning County Planning Commission's staff who does the Mahoning County and Youngstown portion of the Youngstown-Warren SMSA Geographic Base File.

"We have had conversations with the following four agencies in Ohio to help maintain, share and coordinate our knowledge of the Geographic Base File maintenance and uses program.

- Stark County
- Tri-County - University of Akron (Summit-Portage)
- Mid-Ohio Regional Planning Commission - Franklin County and Columbus City
- Seven County Transportation Study (Cleveland City and Cuyahoga, Lake, Geauga, Lorain, Medina Counties)"

OREGON, Eugene April 1974

The Lane Council of Governments
135 Sixth Avenue East
Contact: Marshall Dix
Telephone: 503/342-1757

"Through the combined efforts of the Lane Council of Governments, city of Eugene, city of Springfield, and Lane County, a digitized parcel file has been created for the entire Eugene-Springfield metropolitan area. It contains all tax lots and their associated land uses with a perimeter in state plane coordinates and all structure address with their associated coordinate location. This file will be kept current by using building permits, occupancy permits and demolitions..."

SOUTH CAROLINA, Columbia December 1973

Central Midlands Regional Planning Council
1125 Blanding Street
Contact: James Burwell
Telephone: 803/779-8300

"Coordinated data output is presently being conducted through the GBF with Southern Bell, the city of Columbia, and the University of South Carolina..."

TENNESSEE, Knoxville January 1974

Metropolitan Planning Commission
301 Locust Street
Contact: Don Gilson
Telephone: 615/524-8618

"Because of continued urbanization of Knox County, there is a desire to extend the urbanized area boundary and include this information in the DIME file (CUE Program). Extending the urbanized area boundary would enable linking traffic zone socioeconomic data prepared for input to the Tennessee Department of Transportation trip generation model with the DIME file node numbers for further evaluation of traffic data and street standards."

WASHINGTON, Spokane

January 1974

Spokane City Planning Department
Room 309, City Hall
Contact: Philip D. Adolf
Telephone: 509/456-4375

"Development of the Spokane GBF has been controlled by a consortium of several agencies - the City, County, School District #81, Washington Water Power Company and others. The agencies agree to maintain data compatibility using the GBF. Actual development progress has been delayed due to the several agencies desiring different degrees of coordinate accuracy, differing boundaries, and a low priority and grasp of the actual utility of a GBF."

WEST VIRGINIA, Huntington

December 1973

KYOVA Interstate Planning Commission
305 Cabell County Courthouse
Contact: Ray Crabtree
Telephone: 304/523-7434

"According to contractual agreements established with the Highway Planning Agencies of Kentucky, Ohio and West Virginia, utilization of DIME file data will be handled by these agencies whenever possible for KYOVA. Additionally, a tacit agreement has been made with the West Virginia University Department of Geography to develop operational software that could be used by this agency. This software could either be used by KYOVA directly (pending the development of internal computer capability) or indirectly through access to the WVU computer terminal or through the above mentioned state highway planning agencies."

Glossary

INDEXES

- by Geography
- by Subject Matter

GLOSSARY OF SELECTED TERMS

ADDRESS CODING GUIDE (ACG)

This file, Census designed and locally produced, consists of an inventory of block faces with their associated street names and address ranges together with codes identifying specified geographic areas within which the block faces lie. Each record in this file contains information such as the zipcode, the census tract, the street names and the lowest and highest address associated with that side of the street. Each record relates to odd-numbered or even-numbered addresses, never to both. A basic use is to permit the computer match of mail addresses for the assignment of geographic codes.

ADMATCH (Address Matcher)

A package of computer programs developed under contract to the New Haven Census Use Study (NHCUS) that provides the capability of geographically coding computerized data records containing street addresses. The system compares the addresses on input data records (after standardization with a preprocessor) with the address ranges in a reference file. A "match" occurs when the street names are judged identical or equivalent and when the address falls within the defined range. Geographic codes from the reference file may be attached to the matched data records.

BLOCK

A block is generally a well-defined piece of land, bounded by streets or roads. However, it may be irregular in shape or partially bounded by railroad tracks, streams or other features. Block-level statistics are tabulated for urbanized areas within SMSA's. The Bureau also tabulated data for blocks on a contract basis in over 900 areas outside urbanized areas.

BLOCK FACE

A block face refers to the side of a city block. A typical city block contains four such block faces, each with a range of house or building numbers. No census data are made available for individual block faces.

BLOCK GROUP

A block group is a combination of contiguous blocks and generally has a population of about 1,000. For the purpose of providing small-area census data in the built-up portions of many SMSA's, a block group is the equivalent of the enumeration district.

CARPOL

An approach to large-scale carpooling using DIME technology, designed to present applicants with lists of potential carpoolers who live nearby and who work similar shifts. This computer program's documentation is accompanied by administrative suggestions for executives and technical data for staff members not familiar with computer technology.

CENSUS TRACTS

These Census-designed areal units are statistical subdivisions of SMSA's. Tracts are designed to be relatively homogeneous in population characteristics, economic status, and living conditions, though these conditions may change over time. The average tract has about 4,000 inhabitants. Census tract boundaries and boundary changes are recommended by local census tract committees and approved by the Census Bureau. As tracts increase in population, they may be split.

CENSUS USE STUDY

A small area data research study sponsored by the Bureau of the Census and established in New Haven, Conn., in September 1966. It is designed to explore the current uses and future needs of small area statistics and data handling and display techniques in local, state, and Federal agencies. Through demonstration projects in Indianapolis, Southern California, etc., the utility of the CUS methodology is constantly being tested and redefined in accordance with the needs of local data users.

CENTROID

The center point for an area such as a census tract, census block or block group and described by a coordinate pair. The centroid coordinates may be computed by a digitizer from the boundary coordinates appearing in DIME files and a program (DIME Area Centroid System/DACS) is available for this computation. Alternatively, centroids may be approximated clerically.

COORDINATES

A pair of numbers used to specify the location of a point on a map or globe. Coordinate systems used in GBF/DIME files are latitude and longitude, state plane and map miles.

CORRECTION, UPDATE AND EXTENSION PROGRAM (CUE)

A Census Bureau program designed to update, correct and extend the GBF/DIME file and Metropolitan Map Series, and to develop procedures by which each SMSA can systematically maintain current and accurate files and maps.

COUNTS, FIRST-SIXTH

The terms used by the Census Bureau to identify sets of 1970 census data summaries on computer tape for certain kinds of geographic areas. Numbering refers to the order in which they were released.

DUAL INDEPENDENT MAP ENCODING (DIME)

The DIME file is a system for representing map features numerically for processing by computer. It is essentially a file of segment records where a typical segment is a portion of a street defined by intersecting streets or civil boundaries. Other segments may be defined for natural features, railroad tracks, jurisdiction boundaries, and the like. The basic feature of a DIME file is that each node (intersection) and block (area bounded by segments) is uniquely identified. "Dual Independent" refers to the fact that each boundary segment in the network is described by specifying the nodes at the ends and the blocks to the right and left. With each node and block uniquely numbered, the computer can then construct t w o independent networks and match them to insure the existing network is completely represented and all land accounted for. Spatial information is added to the DIME file by assigning geographic coordinates to each intersection node.

GEOCODING

The assigning of geographic identifiers or "geocodes" to records of events or data.

GEOGRAPHIC BASE FILE (GBF)

A description of the geographic attributes of an area (streets, intersections, geographic codes, addresses) in computer-readable form. An address coding guide and a DIME file are examples.

GRID-RELATED INFORMATION DISPLAY SYSTEM (GRIDS)

A computer mapping system developed by CUS for producing character-printed maps from detailed data. GRIDS is written in ASA Basic FORTRAN IV and has several mapping options available.

METROPOLITAN MAP SERIES (MMS)

A set of maps created for the 1970 Census for the urbanized area of every standard metropolitan statistical area (SMSA). They contain streets and street names and all census-recognized boundaries down to the city block level, and are published in the block statistics reports of the 1970 Census. County and place maps are generally available for areas not covered by the MMS.

ORIGIN/DESTINATION (O/D) SURVEY

A survey to determine the origin and destination of a particular motor vehicle trip. The data gathered is generally used for transportation planning.

STANDARD INDUSTRIAL CLASSIFICATION (SIC) SYSTEM

A method for classifying the Nation's economic activities. Establishments are classified by a four-digit identifier, according to their principle activity.

STANDARD METROPOLITAN STATISTICAL AREA (SMSA)

As reported in the 1970 Census, standard metropolitan statistical areas consist of a county or group of counties containing at least one city (or "twin cities") of 50,000 or more population, plus any adjacent counties which are metropolitan in character and economically and socially integrated with the central county or counties. One or more central cities are identified with each SMSA and their names used to identify the SMSA. SMSA boundaries may cross state lines. SMSA's are defined by the Office of Management and Budget.

SYMAP (Synagraphic Mapping)

This software package, currently maintained by the Harvard Laboratory of Computer Graphics, produces geographic output using a standard high-speed printer. With a wide range of options available, raw data may be statistically processed in various ways and displayed in three basic map types: 1) conformal, 2) contour, and 3) proximal.

UNIMATCH (Universal Matcher)

An improved matching system that has many capabilities not available in ADMATCH such as the ability to handle building names, street intersections and non-address matching. It is a generalized record linkage system which will compile, assemble, and execute a file matching system tailored to the specific needs of the user.

INDEX
BY GEOGRAPHY

INDEX
BY SUBJECT MATTER

SELECTED CENSUS USE STUDY DOCUMENTATION

Census Use Study Reports

1. General Description
2. Computer Mapping
3. Data Tabulation Activities
4. The DIME Geocoding System
5. Data Interests of Local Agencies
6. Family Health Survey
7. Health Information System
8. Data Uses in Health Planning
9. Data Uses in Urban Planning
10. Data Uses in School Administration
11. Area Travel Survey
12. Health Information System - II
14. Geocoding with ADMATCH - A Los Angeles Experience

Southern California Regional Information Study Reports

1. Computer Graphics
2. ACG-DIME Updating System - A First Look
4. ACG-DIME Updating System - An Interim Report
8. ACG-DIME Updating System - The Long Beach, California Experience
10. Research Notes - 1970-1971

Computer Program Packages

1. ADMATCH: An Address Matching System
2. ADMATCH/OS: An Address Matching System
3. GRIDS - A Computer Mapping System
4. DIME: A Geographic Base File Package
5. CARPOL - An Approach to Large-Scale Carpooling
6. UNIMATCH 1: A Record Linkage System

Social and Health Indicators System Reports

1. Mound Bayou, Mississippi - Part I
2. Mound Bayou, Mississippi - Part II
3. Los Angeles
4. Atlanta: Part I
5. Atlanta: Part II
6. Phoenix: Part I

Miscellaneous Publications

1. 1970 Census User Conference Illustrations
2. A Geographic Base File for Urban Data Systems
3. Unified Statistical Evaluation Study - Report No. 2 (Preliminary)
4. Handbook for Manpower Planners - Part I
5. First International DIME Colloquium: Conference Proceedings
6. DIME Workshops: An Interim Report
7. CARPOL - An Overview
8. ADMATCH Adventures
9. Data Uses in the Private Sector