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ECONOMIC IMPACT FORECAST SYSTEM (EIFS) II:
USER'S MANUAL, UPDATED EDITION

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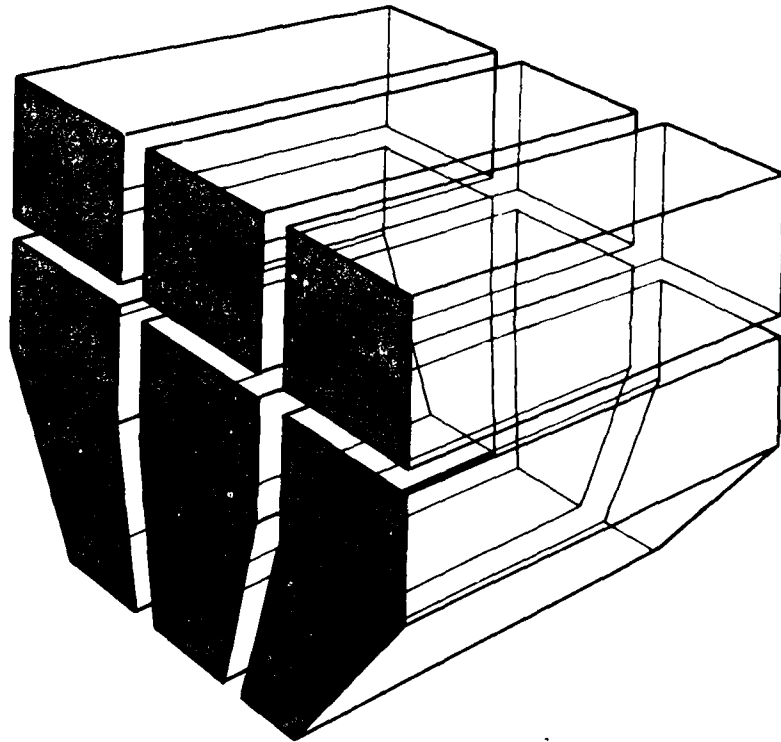
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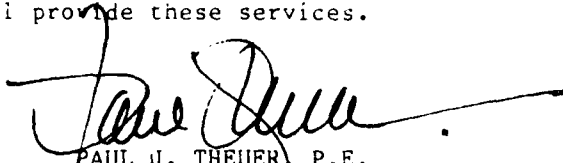
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NOTICE

This report describes a computer-based system which is in the process of being transferred to an operating agency for production use, training, and maintenance. However, until the process is completed, CERL has been authorized to work with DOD users in extending the field testing of the system. This arrangement provides for CERL staff assistance to the user on a cost reimbursable basis and on a staff available basis. The details for making such an arrangement are described in the report. When the transfer is completed the operating agency will provide these services.

PAUL J. THEUER, P.E.
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FOREWORD

This project was performed for the Directorate of Engineering and Construction, Office of the Chief of Engineers (OCE), under Project 4A762720A896, "Environmental Quality for Construction and Operation of Military Facilities;" Task 01, "Environmental Quality Management for Military Facilities"; Work Unit 002, "Development of Environmental Technical Information System." The work was performed by the Environmental Division (EN), U.S. Army Construction Engineering Research Laboratory (CERL). Mr. V. Gottschalk, DAEN-ECE, was the OCE Technical Monitor.

This research was made possible through the efforts of Department of Defense (DOD) personnel, consultants from the University of Illinois, and scientists and engineers of CERL.

Administrative support and counsel were provided by Dr. R. K. Jain, Chief of CERL-EN. COL Paul J. Theuer is Commander and Director of CERL, and Dr. L. R. Shaffer is Technical Director.

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ECONOMIC IMPACT FORECAST SYSTEM (EIFS) II:
USER'S MANUAL, UPDATED EDITION

1 INTRODUCTION

Background

Following the passage of the National Environmental Policy Act (NEPA) in 1969,[1] two orders established that all Federal agencies must assess the environmental impacts of their major programs and actions as well as provide leadership in environmental protection.[2] Because of NEPA's requirement for assessing any impacts on the "quality of human environment," subsequent questions arose regarding whether this mandate extends to the social and economic impacts of programs and actions. Many courts have decided that in preparing Environmental Impact Statements (EISs), adequate assessment of social and economic impacts is as important as assessment of biophysical impacts.

In the past, requirements such as the Case Study Justification Folder (CSJF) documentation for Department of the Army (DA) realignment actions provided for identifying potential economic impacts and considering these impacts in the decision-making process. More recently, Department of Defense (DOD) guidelines have encouraged a uniform approach to socioeconomic impact assessment, so that all DOD agencies may benefit from a systematic approach and uniform documentation. The desire for uniformity stems, in part, from the uniqueness and geographic distribution of DOD installations, their effects on local economies, and the complexity of problems associated with determining the social and economic implications of DOD realignment actions.

To address the need for a systematic approach to socioeconomic impact assessment DA, with substantial cooperation and support from the Department of the Air Force (USAF), has developed the Economic Impact Forecast System (EIFS), which provides information useful for calculating social and economic changes caused by DOD actions.[3] This computer-aided system is designed to be a user-oriented, inexpensive, and systematic approach to meeting NEPA requirements. EIFS points out potentially significant problems early in the

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[1] National Environmental Policy Act of 1970, 83 Stat 852, 42USCS4321, et seq. (January 1970).

[2] Protection and Enhancement of Environmental Quality, Exec. Order 11514, 35 F.R. (March 5, 1970); Prevention, Control and Abatement of Environmental Pollution at Federal Facilities, Exec. Order 11752, 38 F. R. 34793 (December 19, 1973).

[3] R. Webster, R. Mitchell, R. Welsh, E. Shannon, and M. Anderson, The Economic Impact Forecast System: Description and User Instructions, Technical Report N-2/ADA027139 (U.S. Army Construction Engineering Research Laboratory [CERL], 1976); R. Webster, et al., The Rational Threshold Value (RTV) Technique for the Evaluation of Regional Economic Impacts, Special Report N-49/ADA055561 (CERL, 1978).

decision-making process so that alternatives may be considered. If no
significant impacts are shown, adequate documentation of these impacts is
still available.

Since the development of the original version of EIFS, the approach has
been reviewed by members of the scientific community, including some of the
nation's leading regional economists. Some modifications to the multiplier
and other equations have been implemented to further refine the model. This
report presents user instructions for this modified and updated version of the
system. Information in this report supersedes information in CERL Technical
Reports N-2 and N-69.[4] Many problems identified by users in interpreting
Technical Report N-69 and DA Pamphlet 200-2[5] have also been alleviated in this
updated report.

Objective

The objective of this report is to provide instructions for using and
interpreting output from the updated version of EIFS (EIFS II).

Approach

Experience obtained through assisting field users of EIFs was noted, and
a plan for providing a more general user manual for EIFS II (free of limi-
tation to any particular version) was devised. A user's manual was then pre-
pared which meets the necessary criteria and explains in more detail how to
use EIFS II in an interactive mode.

Mode of Technology Transfer

It is recommended that the information in this report be used in the
revision of Department of the Army Pamphlet 200-2. Concurrent with this revi-
sion, it is recommended that existing computer system documentation of the
EIFS model be altered to conform to EIFS II.

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[4]J. W. Hamilton and R. D. Webster, Economic Impact Forecast System, Version
2.0: User's Manual, Technical Report N-69/ADA117661 (CERL, 1979).
[5]Economic Impact Forecast System: Description and User Instructions, DA
Pamphlet 200-2 (Department of the Army, December 1976).

2 INTRODUCTION TO THE ECONOMIC IMPACT FORECAST SYSTEM

CERL developed EIFS to provide DA users with access to (1) selected Department of Commerce statistics regarding the socioeconomic characteristics of any multicounty area in the United States, and (2) a readily implemented analysis technique for assessing the magnitude and significance of potential socioeconomic impacts on those areas.[6] Although EIFS was initially available for only a limited number of DA facilities, DA and USAF support gave impetus to its expansion to include all areas of the United States. Systematic improvement of the EIFS methodology has provided users with additional capabilities and refinements such as (1) a more realistic export employment multiplier,[7] (2) tract-level socioeconomic data,[8] and (3) the Rational Threshold Value (RTV) technique.[9] Much of the work that constitutes EIFS II is contained in several of the new profiles of EIFS, Version 2.5. Because the format of EIFS II is similar to that used for the original version of EIFS, the acronym EIFS will continue to be used throughout this document.

EIFS acts as both an information source and as an analytical tool. The current database is obtained from a variety of sources: Census of Population, Census of Housing, Census of Manufacturers, Bureau of Economic Analysis (BEA) estimates, County Business Patterns (CBP) reports, and private marketing data firms.

A technique based primarily on the economic export base techniques[10] is used to develop the necessary "multipliers." These multipliers are indicative of the total effect to be gained by adding new personnel or expenditures to a region. EIFS calculates and uses both employment and income multipliers to provide estimates of regional economic impacts.

The present EIFS system has evolved from the two-digit multiplier technique used originally to an improved four-digit multiplier. The original EIFS multipliers were based on the Bureau of Census classification of industries. Since the more aggregated approach would lead to an extreme overstatement of the multiplier, the next step in the EIFS development was to disaggregate the employment data. This was done by using the BEA County Business Patterns

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[6]R. D. Webster, et al., _Development of the Environmental Technical Information System_, Interim Report E-52/ADA009668 (CERL, 1975); Technical Report N-2.

[7]Andrew Isserman, "Regional Employment Multiplier: A New Approach: Comment," _Land Economics_ (August 1975); R. D. Webster, et al., _Development of the Economic Impact Forecast System (EIFS)-The Multiplier Aspects_, Technical Report N-35/ADA057936 (CERL, 1977).

[8]R. D. Webster and A. B. Moy, _Tract Level Socioeconomic Data Systems for Solid Waste Management at Army Installations_, Interim Report N-45/ADA054935 (CERL, 1978).

[9]R. D. Webster, et al., Special Report N-49.

[10]Charles M. Tiebout, _The Community Economic Base Study_, Supplemental Paper No. 16 (Committee for Economic Development, December 1962).

(CBP) computer tapes, which break employment down into the four-digit Standard Industrial Category (SIC) code.[11] The previous calculations had been done at an approximate two-digit level. This four-digit multiplier should more accurately reflect the actual situation, since the additional detail would be more apt to catch small interindustry transactions. This four-digit multiplier is still an overstatement of the multiplier, although the actual or exact multiplier cannot be scientifically validated. Table 1 shows the effect of disaggregation.

Table 2 indicates the use of the "location quotient" technique for identifying the number of employees producing goods for export and also indicates the simplicity of the multiplier calculation for a very simple four-sector economic region. The actual technique in EIFS, of course, uses between 300 and 800 sectors.

Column 1 of Table 2 gives the percentage of the total national employment that each industry provides, Column 2 provides the total employment in the region for each industry, and Column 3 calculates the percentage of total regional employment that each industry contains. Location quotients are derived by dividing the items in column 3 by those in column 1. A location quotient greater than 1.00 indicates that the region exports those commodities to other regions. Location quotients less than 1.00 imply that the commodities are not produced locally in quantities sufficient to satisfy local needs and therefore must be imported. Finally, location quotients equal to 1.00 indicate that the region neither imports nor exports those commodities.

To find export employment in a basic industry, 1.00 is subtracted from the location quotient, and the answer divided by the original location quotient (Column 5). This answer gives the percentage of employment for the industry involved in export activity. Multiplying the items in column 5 by those in column 2 provides the number of export employees for each industry. The multiplier is the ratio of total regional employment to export employment. In this example, the multiplier is 5, indicating that a $1 increase in export demand would cause a change of $5 in regional income.

The size of the multiplier is directly related to the size of the region, the diversity of its industrial and commercial base, and the size of its population. The greater the population size, the more diverse is the region's economic base, and the more likely that purchased products are manufactured locally rather than imported. Therefore, money injected into the economy is "recycled" more often, causing greater changes in income.

Economic base analysis, with location quotients used as the technique for calculating multipliers, is at the heart of EIFS. CERL scientists believe that the advantages of this technique—reliance on published data sources, incorporation of indirect and direct exports, and the relative minimal cost involved—far outweigh its disadvantages.

Once the total effect is obtained, EIFS distributes the impact to various sectors of the regional economy. Appendix A clarifies the techniques used in EIFS.

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[11]Standard Industrial Classification Manual, 1967 (Executive Office of the President, Bureau of the Budget, 1967).

Table 1

The Effects of Disaggregation
(From Andrew Isserman, "The Location Quotient Approach to Estimating
Regional Economic Impacts," AIP Journal [January 1977].)

	Multiplier			
Area	Division Level Data	Two-Digit Level Data	Three-Digit Level Data	Four-Digit Level Data
Georgia	19.01165	6.57299	5.49690	4.84118
Kansas	10.30828	6.51033	4.78054	4.29892
Philadelphia Standard Metropolitan Statistical Area (SMSA)	17.24355	9.10950	6.03754	5.18102
Washington, DC SMSA	3.30660	2.97354	2.81134	2.79792
Port Monmouth Tri-County, NJ	15.68284	7.17098	5.18690	4.4776
Monmouth County, NJ	7.22016	5.16081	3.88481	3.49575

Employment data sources: County Business Patterns, 1972 augmented by data on government employment obtained from the Bureau of Economic Analysis, U.S. Department of Commerce.

Table 2

Location Quotients for a Hypothetical Region

	1	2	3	4	5	6
Industry or Sector	Percent of National Employment	Regional Employment	Percent of Regional Employment	Location Quotient	LQ-1 ÷ LQ	No. of Export Employees
Services	.40	400	.40	1.00	--	
Durable Goods Manufacturing	.20	75	.075	.375	--	
Nondurable Manufacturing	.10	25	.025	.25	--	
Trade	.30	500	.50	1.667	.40	200
Total		1,000				

$$\text{Multiplier} = \frac{\text{Total Employment}}{\text{Basic Employment}} = \frac{1000}{200} = 5$$

3 ORIENTATION

This report is a tutorial and reference document on the practical uses of EIFS. It addresses the principles of interactive computing, operation of interactive terminals, and use of EIFS software. It does not include technical documentation of the EIFS algorithms, economic models, or databases. The report is designed to be used initially as a step-by-step guide; when the user has become familiar with the system, it may be kept handy as a reference to answer questions.

The contents of the report have been divided into sections covering discrete topics. Where possible, an informal, tutorial approach is used; assumptions of the user's computer expertise are minimized. Instructions are presented both in the text and by numerous examples. New users should read the text and examples and then experiment with the system to gain "hands-on" experience.

EIFS is an evolving system; new features and improvements are continually being added. Most changes affect only the internal functioning of the system and will not affect the operating procedures. Other changes, such as the addition of new profiles, which have a relatively minor impact on users, will be announced and documented by system messages. Version 3 of EIFS will be announced by a new edition of this manual. This current edition describes EIFS II, which has a revised and expanded list of program options.

For example, the user can now create an "alias," which will be recognized by EIFS during subsequent sessions, with an area of study. This means that the user can type in a short name to access an area of study which has a lengthy specification.

The databases have also been updated and more data has been added, including the 1980 census data. The directions which aid the user in making step-by-step decisions (the "help" files), have also been improved. The equations which are used in the mathematical models in EIFS are documented in Appendix A.

Minor changes to this edition will be announced and documented interactively in EIFS, eliminating further duplication of this manual. There are also plans for implementing a complete on-line documentation system. Some features are already documented by the program; typing a question mark will command EIFS to print this information. Eventually, at any point where EIFS expects user input, help will be available from the computer. This document itself will eventually be stored on the computer in such a way that the user can call up any section on the terminal screen.

This report can be used most effectively in a three-ring binder. Sections can then be separated, and future additions (available by interactive retrieval) can be added.

4 INTRODUCTION TO INTERACTIVE SYSTEMS

Definition

EIFS is an interactive or "conversational" system. This means that the
user can interact with EIFS to enter data, examine output, and choose program
options while an EIFS program is actually running. The term conversational
refers to the fact that the computer will type out operating instructions and
other information at the user's request; thus, a sort of conversation between
the user and EIFS is simulated.

To illustrate the distinction between an interactive system and a non-
interactive or batch one, consider the following analogy of buying a pair of
shoes by mail out of a catalog, as opposed to buying them in person at a
store. Ordering by mail requires filling out an order form, mailing it in,
and waiting for delivery. When it arrives, it may or may not be what was
ordered. Exchanging it then requires another time-consuming round of the same
process, and may still provide an unsatisfactory product. On the other hand,
a salesperson in a store will wait on you, help you find what you want, and
compute the charge. The entire transaction takes a matter of minutes.

A batch system is analogous to the mail-order company, and an interactive
system is analogous to a store. Both types of program accept input or
instructions from the user and deliver output or results, but there is a great
difference in convenience and effectiveness.

With a batch system, the user prepares all input and submits it as a
unit, as in the case of a deck of punched cards; the program responds later,
possibly much later, with its entire output. Therefore, the user must know
what he/she wants before starting. If the input contains an error, it will
not be discovered until much later, possibly after a long, expensive computer
run. In addition, many systems require the user to specify several computer
factors unrelated to his/her problem, such as how much time the run should
take or how many lines of output will be allowed. Running the program may
require the user to be versed in the computer system and its jargon, such as
operating card punch machines and readers, writing job control instructions,
or interpreting error messages. This may require the use of computer consul-
tants, who have little or no understanding of the user's technical require-
ments.

With an interactive system, the user submits his/her input one step at a
time in response to prompting from the computer. Invalid input will be dis-
covered quickly; the output appears quickly, and if it is wrong, the input can
be modified. Most interactive systems assume that the user is not trained in
computer operations; instead, their instructions are in the language of the
field they operate in and do not require that the user provide complex system
commands or interpret strange system messages. They further assume that the
user is not sure of what is to be done; they provide "menus" or lists of
options to choose from, with explanations of what each is, and what must be
done to get it. The equipment needed to access an interactive system is
little more complicated than a typewriter and a telephone; a user can often
keep such a device in his/her own office.

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EIFS is a large set of programs and databases (a system), controlled by a master system called UNIX,[12] which has its own programs and databases for normal operations. To distinguish between the two "systems," UNIX is often called the "operating" or "executive" system, while EIFS is an "application" system. Both UNIX and EIFS are interactive; in fact, an interactive application system generally requires an interactive operating system. Most users will not be aware of UNIX; they will see it momentarily when they initiate and end sessions with EIFS. As some users become more familiar with the computer, they may begin to take advantage of some of the many powerful features offered by UNIX. The most important of these are the communication facilities (i.e., the "mail" and "write" commands), which allow users to communicate with each other and with EIFS administrative and maintenance personnel. If problems arise, the user can report them or seek assistance without having to use the telephone or mail.

The Terminal

An EIFS user interacts (provides input and receives output) through an interactive terminal. The terminal most commonly used with EIFS II is the Texas Instruments "Silent 700" series electronic data terminal, usually referred to as "TI." The instructions given in this report are for use with the TI model 745; other terminals operate similarly, as indicated by the manufacturer's instruction book.

The TI resembles an electric typewriter, but contains extra keys, continuous roll paper, and a receptacle for a telephone handset. Once the user has logged in, the terminal (Figure 1) is operated like a typewriter, with a few exceptions. The user indicates the end of a line of input by typing the RETURN key; generally, the computer will not reply until this is done. The RETURN key is often referred to in writing by the symbol <CR>.

On the UNIX computer system, use of lower-case letters is predominant. This convention is followed in EIFS; upper case is almost never used.

In addition to the lower- and upper-case letters and numbers common to typewriters, the terminal has a third set of letters called "control" characters (Figure 2). These letters are typed by depressing the CTRL key while striking a letter key, in the same way that one types a capital letter on a typewriter. The user need not be concerned with any control characters but the control-d and the control-h. Control-d (often referred to in writing by the symbol ✦ D) has special significance; it tells the program that the user is finished, and is also used during logout. Control-h is the backspace key; if a mistake is made when typing a line, the user should backspace over the error and continue with the correct input.

The "at"(@) key performs a related function; it instructs the computer to disregard the entire line just typed and begin again. It is used when

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[12]K. Thompson and D. M. Ritchie, UNIX Programmer's Manual, 6th ed. (Bell Telephone Laboratories, Inc., May 1975); Documents for Use with the UNIX Time-Sharing System (Western Electric Company, 1975); Dennis M. Ritchie, C Reference Manual (Bell Telephone Laboratories).
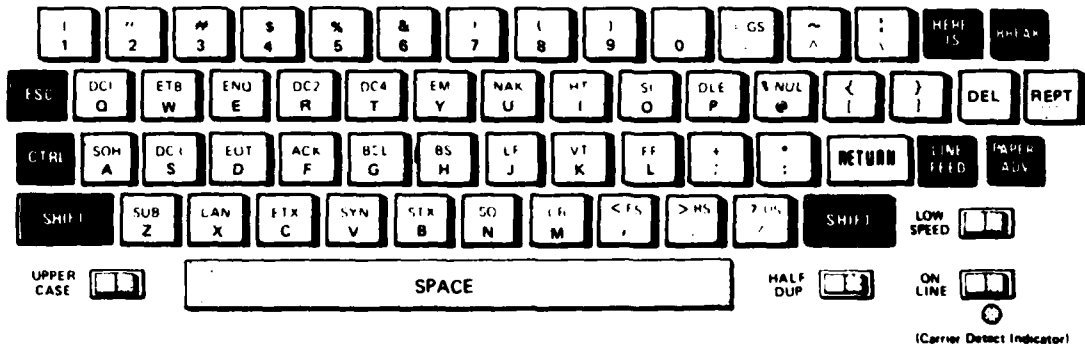
Figure 1. The terminal keyboard. (Material extracted from *Model 745
Portable Data Terminal Operating Instructions*, Manual No.
984024-9701, Rev. A, with permission of publisher. Copyright
1975, Texas Instruments Incorporated.)
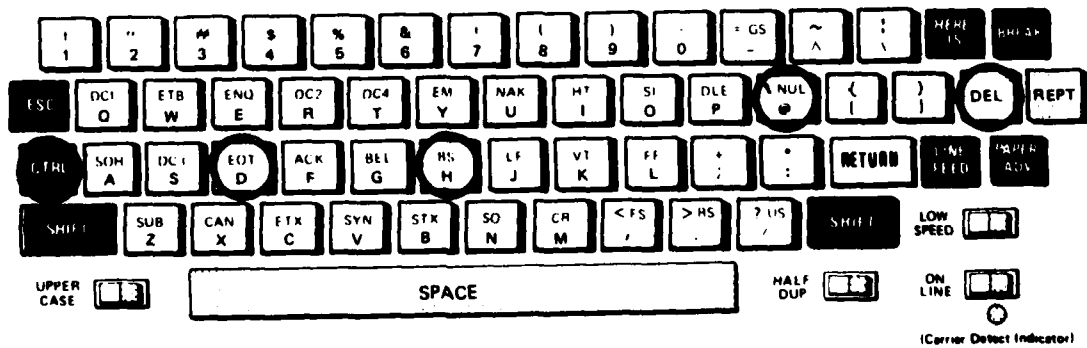
Figure 2. Special keyboard keys. (Material extracted from *Model 745
Portable Data Terminal Operating Instructions*, with permission
of Texas Instruments Incorporated.)

back-spacing is inconvenient--for example, when the whole line is incorrect, or when backspacing and overstriking have obscured the line.

The DEL (some terminals label it RUBOUT) key causes the computer to drop what it is doing and attend to the user; it is usually used to abort a lengthy printout or cancel a requested option after EIFS has started to perform it. It is the only control character that does not require the use of another key simultaneously; it is not necessary to follow it with a RETURN.

The following steps should be used to prepare the terminal and connect to EIFS:

1. Set the terminal up in a work area near a telephone

2. Attach the power cord to the terminal and to an electric outlet

3. Turn the power switch on

4. Set the four rocker switches on the keyboard:

   "UPPER CASE" off

   "HALF DUP" off

   "LOW SPEED" off

   "ON LINE" on

5. Dial the UNIX telephone number: (217) 333-1587 or FTS 957-1587

6. Wait for the computer to answer with a steady tone

7. Place the telephone handset in the receptacle.

The terminal will signal a successful connection with a green light near the edge of the keyboard; the computer will display an identifying herald and prompt the user to login.

5 USE OF EIFS

Getting Into EIFS

When a connection has been made, UNIX will reply with a brief identifying message and a prompt for the user's login name. After the user's assigned login name has been typed, the computer will prompt for the matching password. For security, the password will not appear on the terminal printout as it is typed. If the password is typed incorrectly, the computer will print "Login Incorrect" and return to the login prompt. If the user cannot login, he/she should check to see that the login name and password are valid.

After login, the latest UNIX system messages will be printed; most or all of these messages will not concern the EIFS user (Figure 3). Occasionally, they will announce when the computer will be unavailable.

If the last output from the computer is a percent (%) sign, the user is at the "UNIX command level." At this level, all the commands and resources of the UNIX system are at the disposal of the user. It might be instructive for the user to try one or two very simple UNIX commands. For example, entering "date" will result in the time and date being typed out by the computer, and the "who" command results in a list of the users who are currently logged into the system. From this level, the user must first request that UNIX run the program ETIS (Environmental Technical Information System) before EIFS can be invoked. ETIS is a special umbrella or "shell" program which serves as a user receptionist for several systems, including EIFS. Simply type "etis" to run ETIS. (Arrangements can be made so that a user is placed directly in ETIS after signing on, thus eliminating a step in using EIFS. This is often convenient for a beginning EIFS user who is likely to be mainly interested in running only EIFS and not in exploiting any of the other UNIX facilities.)

Upon entering ETIS, a message will welcome the user to ETIS. This message will include directions on how to list the systems available in the ETIS system. The user might be interested in generating this list at least once for information or as an exercise. The list will point out that typing either "4" or "eifs" will invoke EIFS (Figure 4).

Upon entering EIFS, a welcoming message similar to the one from ETIS will be output. Any news regarding EIFS, such as system updates and other changes, will be reported in this message. The system will prompt immediately for the geographic region of interest. The user need not worry about "getting lost" in ETIS or EIFS or making some other costly mistake. These systems are "user proof," and they will lead the user step-by-step through a session.

At the end of an EIFS session, typing control-d will return the user to ETIS; typing control-d once or possibly twice more will result in logging out, as will hanging up the phone. In fact, at any stage of an EIFS session, typing control-d often enough will allow the user first to exit from EIFS and then to log out.

```
U of I Computing Services Office
        Unix System
Login:  hamilton
Password:

12Jan79 sys == da.noncpunix. (misc)
        For Unix help, type      help

        rp5: 2087. Below 1000 indicates /mnt space shortage; act accordingly.
        Machine room (209 ACB) is locked except 8:30-5:00 Mon-Fri.

Tues:  Unix reboot 0800 ... back at 0815.
% etis
Welcome to CERL's

        Environmental Technical Information System

What program?  (Type <cr> to see List):
```

Figure 3.   Example of user login with UNIX prompt and system messages.

```
ETIS: What program? (Type <cr> to see list):   eifs

            EIFS version 2.5 has been installed

The new EIFS incorporates many changes; for a description, see profile 97.

Economic Impact Forecast System (version 2.5)

First county or region (type ? for help):
```

Figure 4.   Invoking EIFS from ETIS.

Selecting a Study Area

The first step in using EIFS is selecting a study area. A study area consists of one or more counties, and a group as large as 800 counties can be accommodated. In reality, choosing a study area can be a problem, and the final choice will depend on its purpose and use. A review of the issues and several "hints" for defining regions are provided in Appendix B. Counties may be identified by name, by Federal Information Processing Standard (FIPS) code, or by specially defined areas (Figure 5).

To select a county by name, give the name of the county and the name of the state it is in, separated by a comma (for example, "orange, california"). The word "county" is not necessary, but is acceptable. State names can be abbreviated, and EIFS understands several different abbreviations (for example, "ca," "cal," and "calif"). Periods, apostrophes, and spaces that may appear in some names, such as "st. louis," "o'brien," or "de soto," are not necessary, but will be accepted.

To select a county by FIPS code, type the five-digit code number (for example, "06059"). Five digits are necessary, so do not drop any leading zeros.

To select one of the predefined regions (e.g., military installations), type the name of the region (for example, "fort irwin").

If the study area will include an entire state, use the form "counties of .." to select all the counties of a state (for example, "counties of california"). This selection provides the same result as typing the names of each county in the state; later, it will assemble data for each county and add them up to provide state-level data. For some purposes, the database already contains state data. To access this, use the form "state of ..." (for example, "state of california").

If a mistake is made while typing a county, state, or region name, EIFS will offer to print a list of counties, states, or regions. Appendices C through F list predefined regions and their constituent counties.

When selecting a study area, the user may type a question mark (?) to get a brief summary of the available specification formats, an asterisk (*) to get a numbered list of counties selected so far, or a minus sign (-) followed by a number to delete the numbered county from the list (Figure 6). To delete all the counties, type the DEL key to restart the selection process.

After selecting the study area, type RETURN to proceed to the next step (Figure 7). EIFS will display summary population and land area data for each county in the list selected (Figure 8), plus totals for the entire group. If the user does not continue, he/she may type control-d to exit from EIFS.

Selecting a Profile

After selecting the study area, the user will be prompted for the profile of interest; typing RETURN will cause a menu to be printed (Figure 9). Profiles are selected by typing the appropriate profile number.

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```
First county or region (type ? for help):  orange, california
First county or region (type ? for help):  06059
First county or region (type ? for help):  fort irwin
First county or region (type ? for help):  counties of california
First county or region (type ? for help):  state of california
```

Figure 5. Formats for selecting counties.

```
First county or region (type ? for help):  ?

You may select individual counties:
by  <countyname>,<statename>    eg:  los angeles, california
by  FIPS code                   eg:  06037

You may select certain regions:
by  <regionname>                eg:  fort benning
by  <smsaname> "smsa"           eg:  chicago smsa
by  "state of" <statename>      eg:  state of illinois
by  "counties of <statename>    eg:  counties of illinois
by  "my" <private regionname>   eg:  my northern illinois

        While you are selecting your study area, you may type:
#       (sharp) to show how many counties you have selected.
*       (asterisk) to show your list of counties so far.
+       to re-select your previous study area
-n      (n = a number) to delete the n-th county from your list.
-all    to delete all counties in your list (to start over).
save    to store your selection as a private region for later recall.
unsave  to delete a previously saved private region definition.
?save,  ?unsave, ?states, ?<statename>, ?regions, ?smsas, or "?my regions"
        for more help.

If you misspell a county, state, or region name, you will be offered a list
of valid spellings.

When you finish selecting your area, type a carriage return.
To leave EIFS, type a control-d.
```

Figure 6. Selecting editing features.

```
First county or region (type ? for help):  houston,al
Next county or region (type RETURN if done):  jackson,fl
Next county or region (type RETURN if done):  geneva,al
Next county or region (type RETURN if done):  walton,fl
Next county or region (type RETURN if done):  bay,fl
Next county or region (type RETURN if done):  gulf,fl
Next county or region (type RETURN if done):  henry,al
Next county or region (type RETURN if done):  dale,al
Next county or region (type RETURN if done):  early,ga
Next county or region (type RETURN if done):  miller,ga
Next county or region (type RETURN if done):  baker,ga
Next county or region (type RETURN if done):  grady,ga
Next county or region (type RETURN if done):  thomas,ga
Next county or region (type RETURN if done):
```

Figure 7. Ending study area selection.

```
You have selected:
 FIPS County      State '80 Population    Area (sq mi)
01045 dale          al        47,821             559
01061 geneva        al        24,253             577
01067 henry         al        15,302             554
01069 houston       al        74,632             575
12005 bay           fl        97,740             747
12045 gulf          fl        10,658             565
12063 jackson       fl        39,154             935
12131 walton        fl        21,300           1,053
13007 baker         ga         3,808             355
13099 early         ga        13,158             524
13131 grady         ga        19,845             466
13201 miller        ga         7,038             287
13275 thomas        ga        38,098             541

        Total               412,807           7,738
```

Figure 8. Study area summary.

The 1980 census profile (#1) (Figure 10) provides a wide variety of statistics from the 1980 censuses of population and housing; e.g., population counts by age, sex, or race; families, households; housing units; and housing values. The 1970 census profile (#2) (Figure 11) contains similar information from the "2nd count" and "4th count" 1970 census of population.

The "valado" overview profile (#3) (Figure 12) includes estimates of employment and income multipliers as well as brief summaries of local business activity and educational data.

The short BEA employment/income time series profile (#4) (Figure 13) provides annual income, employment, and population data for the study area. The detailed BEA employment/income time series profile (#5) (Figure 14) also provides annual income, employment, and population data, but the employment and income are given by "type and broad industrial source."

The BLS labor force timeseries profile (#6) (Figure 15) presents monthly and annual estimates of the local labor force as well as employment and unemployment rates.

The detailed employment profile (#7) (Figure 16) provides estimates of employment by industrial division and by several levels of Standard Industrial Classification (SIC) categories for the year 1972.

The export employment profile (#8) (Figure 17) presents estimates of those industrial workers who produce local goods and services for export. They are derived according to the "location quotient" method.[13] These estimates also form the basis for computing the EIFS export/base employment multiplier.

The 1977 County Business Patterns profile (#9) (Figure 18), like the detailed employment profile (#7), also contains estimates of industrial employment, but for the year 1977. Besides the year, there are two differences between these two profiles (i.e., #7 and #9) that make their employment estimates not completely comparable. First, the detailed employment estimates given in the detailed employment profile (#7) are complete, while the 1977 County Business Patterns profile (#9) provides only ranges of employment estimates for those industrial categories that have "disclosure" problems. Second, the former profile (#7) uses the 1967 SIC sectoring scheme, whereas the latter profile (#9) employs the 1972 SIC categories.

The population/households/income by tract/minor civil division profile (#10) (Figure 19) presents a variety of data at the sub-county level of geography; e.g., population and household counts, income, per capita income, and income distributions. Only a sample of the information available through this profile is shown in Figure 19 (i.e., options 7 and 9).

[13]Andrew Isserman, "The Location Quotient Approach to Estimating Required Economic Impacts," AIP Journal (January 1977).

The RTV profile (#13) (Figure 20) analyzes historic trends in business volume, income, employment, and population to measure the extent of their fluctuations in the past (Figures 20-43 appear at the end of this chapter). The measure of these past fluctuations can, for example, be used as a systematic approach for identifying the significance of economic and social impacts due to military realignment actions or industrial relocations.

The menu of experimental profiles (#98) (Figure 21) provides a list of experimental work being carried out within EIFS. These profiles are either temporary, or may be in preparation for entry into the main EIFS menu. Changes in their operating procedures or their appearance can occur at any time; consequently, their description can only reflect the current "state of affairs" at the time of writing.

The CERL-RIMS profile (#45) (Figure 22) estimates output (or sales), employment, and income multipliers for industrial sectors within the region of interest. The Regional Industrial Multiplier System (RIMS) is a set of procedures that generates input-output (I-O) type industrial multipliers for any county or multi-county area in the United States.[14] That is, they relate changes in regional gross-output, income, and employment to changes in industry-specific final demand for a region. They are used in regional economic impact analysis just like the multipliers from any regional I-O model. A list of valid industrial codes and titles and their Standard Industrial Classification (SIC) equivalent categories are provided in Appendix I (Industry Names and Codes Available for CERL-RIMS Analysis).

The DLA profile (#60) (Figure 23) estimates the regional employment impacts that are likely to occur as a result of contracting activities within the Defense Logistics Agency (DLA). This program correlates relevant information which influences local employment levels, such as geographic location, type of product, technological processes, and existing sales levels, to arrive at a range of possible employment levels appropriate for a particular contract award. The method used to estimate the likely number of employees to be hired because of a contract award or laid off due to a contract rejection is to multiply the estimated contract award by a range of sales per worker ratios, based on the size of firms both within the same industrial classification as the commodity's producer and located in the same geographic area where the commodity is made. Local employment impacts of DLA contracting activities are

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[14]R. L. Drake, "Relationship Between Direct and Indirect Components of Input-Output Multipliers" (a paper delivered at the 1974 meetings of the Western Regional Science Association); R. L. Drake, "A Short-Cut to Estimates of Regional Input-Output Multipliers: Methodology and Evaluation," International Regional Science Review (Fall 1976), pp 1-17; and R. L. Burford and J. L. Katz, "On the Estimation of Value Added, Income, and Employment Multipliers Without a Full Input-Output Matrix" (a paper presented at the 1978 meetings of the Southern Economic Association).

estimated using "input-output" type employment multipliers[15] which are unique to the region as well as specific to the industrial category in which the commodity is manufactured.

The Commercial Activities System (CAS) profile (#71) (Figure 24) provides a cost comparison of performing a military activity "in-house" with that of contracting for the service. As shown in Figure 24, the use of this profile is restricted due to the sensitive nature of its data; for further information about the CAS profile, contact Mr. Ronald Webster or Mrs. Susan Odom at CERL, Commercial (217-352-6511).

The "review of your county list profile" (#75) (Figure 25) lists counties that define the current study area.

The "do-it-yourself population pyramids profile" (#78) (Figure 26) provides a way of examining the age distribution of the population in either graphic (i.e., a population pyramid) or tabular form. Options are available to disaggregate population by county, race, or time. Other population pyramid profiles (#88, #89, #90, and #91) are also available, but do not have the flexibility of profile #78.

Several profiles are only accessible with the use of a Ramtek "color-graphics" terminal and, as a result, cannot be shown here. The BEA graphics demo profile (#83) presents employment and earnings by division-level industrial categories graphically in terms of bar and pie charts. The ROI within-state(s) plot profile (#84) shows a map of the study area inset within a map of the state or states that contain the study area. The ROI plot profile (#85) draws a map of the study area and then "color fills" the map for several county-specific data attributes (e.g., employment, income, per capita income, and population).

The AFLECS Input Editor profiles (#86 and #87) (Figures 27 and 28) are access points to the "loser" and "gainer" versions of the Air Force Local Economic Consequences Study (AFLECS) model. AFLECS was developed by the Air Force Engineering and Services Center (AFESC) to analyze Air Force installation realignment actions and base closures. AFLECS is a highly disaggregated socioeconomic model that provides both temporal and geographic detail in its output results. At present, AFLECS requires substantial quantities of community-specific input detail and numerous hand calculations to use. For more information about AFLECS, see the AFLECS user's manual.[16]

The description profile (#97) (Figure 29) reviews several recent changes in EIFS.

---

[15]The industry-specific employment multipliers used for the DLA profile are based on a combination of methodologies developed in Roger L. Burford and Joseph L. Katz, "On the Estimation of Values Added, Income, and Employment Multipliers Without a Full Input-Output Matrix," and Ronald L. Drake, "A Short-Cut to Estimates of Regional Input-Output Multipliers: Methodology and Evaluation."

[16]J. W. Hamilton and R. D. Webster, Local Economic Consequences Study (LECS) Preliminary User Manual, Interim Report N-94/ADA088261 (CERL, 1980).

```
What profile? (<cr> to see list):

Type:    For:
  1      1980 Census overview
  2      1970 Census overview
  3      "valado" overview profile
  4      short BEA employment/income timeseries
  5      detailed BEA employment/income timeseries
  6      BLS labor force timeseries
  7      detailed employment profile (1972 County Business Patterns)
  8      export employment profile (1972 County Business Patterns)
  9      1977 County Business Patterns
 10      population/households/income by tract/minor civil division
 11      to examine and/or change the multiplier(s)
 12      the Forecast Models
 13      rtv (rational threshold value)
 98      menu of experimental profiles
  -      to select a different region
quit     to leave the program

Disaggregated versions of profiles 1, 2, 4, 5, and 6 are obtained by appending
"by county" to the profile number (e.g., "1, by county").
```

Figure 9. Menu of EIFS profiles.

```
What profile? (<cr> to see list):   1

1980 Census Overview

Population Totals
-----------------

Population          412,807
Families            111,658
Households          142,318

Housing Units       159,174

Urban vs Rural
--------------

                    Total       Urban     Non-Rural      Rural
Population          412,807     130,862      96,569      185,376
Housing Units       163,296      50,283      35,533       77,480
```

Figure 10. 1980 census overview profile.

Population

	Total	Male	Female
Total	412,807	201,320	211,487
under 1 year	6,864	3,415	3,449
1 and 2 years	12,775	6,513	6,262
3 and 4 years	12,489	6,308	6,181
5 years	6,467	3,317	3,150
6 years	6,529	3,376	3,153
7 to 9 years	21,423	11,024	10,399
10 to 13 years	27,472	14,205	13,267
14 years	7,301	3,716	3,585
15 years	7,889	4,090	3,799
16 years	8,176	4,225	3,951
17 years	8,122	4,247	3,875
18 years	7,640	3,943	3,697
19 years	7,768	4,063	3,705
20 years	7,508	3,932	3,576
21 years	7,242	3,637	3,607
22 to 24 years	21,906	11,225	10,608
25 to 29 years	32,521	16,310	16,211
30 to 34 years	29,620	14,866	14,765
35 to 44 years	45,763	21,933	23,830
45 to 54 years	41,772	20,076	21,696
55 to 59 years	20,287	9,423	10,864
60 to 61 years	7,728	3,593	4,135
62 to 64 years	10,642	4,815	5,827
62 to 74 years	30,322	13,133	17,189
75 to 84 years	13,144	4,890	8,254
Over 84 years	3,437	1,044	2,393

Race

Total	412,807
White	317,590
Black	89,899
Indian, Eskimo, Aleut	1,521
Indian	1,515
Eskimo	4
Aleut	2
Asian and Pacific Islander	2,127
Japanese	370
Chinese	124
Filipino	357
Korean	367
Asian Indian	112
Vietnamese	680
Hawaiian	69
Guamian	35
Samoan	13
Other	1,670

Figure 10. (Cont'd)

28

Marital Status

	Total	Male	Female
Total	311,487	149,446	162,041
Single	65,834	37,923	27,911
Now Married	192,405	96,656	96,749
Separated	7,394	2,928	4,466
Widowed	26,678	3,803	22,875
Divorced	19,176	8,136	11,040

Housing

	Total	Occupied	Vacant	Persons
Total	159,175	142,318	15,856	403,074
Owned	102,112	100,083	2,029	285,770
Rented	49,124	42,235	6,889	117,304
Other	7,938		7,938	

Housing Value (Owner-Occupied)

less than $10,000	7,709
$10,000 to $14,999	6,256
$15,000 to $19,999	6,811
$20,000 to $24,999	7,866
$25,000 to $29,999	7,564
$30,000 to $34,999	6,927
$35,000 to $39,999	5,490
$40,000 to $49,999	8,108
$50,000 to $79,999	10,844
$80,000 to $99,999	1,511
$100,000 to $149,999	1,111
$150,000 to $199,999	235
$200,000 or more	173

	Total	Occupied	Vacant
Aggregate Value	$ 2,506,861	$ 2,452,182	$ 54,679 ($000)
Units	72,211	70,605	1,606
Mean Value	$ 34,716	$ 34,731	$ 34,047

Figure 10. (Cont'd)

```
Contract Rent
-------------
no cash rent                                  4,261
less than $50                                 5,206
  $50 to $99                                  8,852
 $100 to $119                                 2,988
 $120 to $139                                 3,131
 $140 to $149                                 1,029
 $150 to $159                                 2,062
 $160 to $169                                 1,068
 $170 to $199                                 2,616
 $200 to $249                                 4,166
 $250 to $299                                 1,526
 $300 to $399                                   788
 $400 to $499                                   111
 $500 or more                                    30
```

	Total	Occupied	Vacant	
Aggregate Rent		$5,831,032	$4,333,769	$1,497,263
Units	40,265	33,573	6,692	
Mean Rent		$ 145	$ 129	$ 224

Source: Bureau of the Census, Census of Population and Housing, 1980

Figure 10. (Cont'd)

```
What profile? (<cr> to see list):  2

1970 Census Overview

CITY COUNTY DATA BOOK
==== ====== ==== ====

Land area:             7,738 sq mi
Total population:         355,885
Pop density:               45.99

Business Volume -- 1967

Manufacturing:     $  165,500,000.00
Retail:            $  446,251,000.00
Service:           $   49,389,000.00
Wholesale:         $  335,108,000.00

CENSUS OF BUSINESS, 1972
====== == ========== ====

Dir gen expend:        117,775,000.00
Educational expend:     65,506,000.00
Total assessed value:  696,899,000.00
Assessed to sales price ratio:  46.44
Property taxes:         23,998,000.00
Value added -> mfgr:   244,000,000.00
Retail sales:          696,631,000.00
Service receipts:      102,697,000.00
Wholesale receipts:    648,336,000.00
```

Figure 11. 1970 census overview profile.

```
2ND COUNT CENSUS, 1970
=== ===== ======= ====
Population by age and sex:
  Age     Male    Female    Total
  < 1     3,535    3,291    6,826
    1     3,270    3,088    6,358
    2     2,956    2,879    5,835
    3     3,142    3,077    6,219
    4     3,287    3,171    6,458
    5     3,530    3,410    6,940
    6     3,651    3,488    7,139
    7     3,729    3,383    7,112
    8     3,649    3,531    7,180
    9     3,734    3,579    7,313
   10     4,070    3,857    7,927
   11     3,769    3,635    7,404
   12     3,783    3,718    7,501
   13     3,942    3,644    7,586
   14     3,874    3,643    7,517
   15     4,036    3,579    7,615
   16     3,814    3,567    7,381
   17     3,869    3,486    7,355
   18     3,644    3,063    6,707
   19     3,676    2,987    6,663
   20     4,122    3,018    7,140
21-25    16,758   14,064   30,822
26-30    10,951   11,278   22,229
31-35     9,139    9,977   19,116
36-40     9,469    9,993   19,462
41-45     9,081    9,900   18,981
46-50     9,238    9,936   19,174
51-55     8,183    9,032   17,215
56-60     7,949    8,839   16,788
61-65     6,614    7,748   14,362
66-70     5,012    6,434   11,446
71-75     3,335    4,631    7,966
76-80     2,155    3,169    5,324
 > 80     1,872    3,952    4,824
```

Figure 11. (Cont'd)

```
Aggregate $ monthly contract rent --
renter occupied          1,568,825.00
vacant for rent:           226,050.00

Count of occupied units by tenure --
Owned or being bought:        70,809
Cooperative or condo:             62
Rented for cash rent:         27,431
Rented for no cash:            3,536



4th COUNT POPULATION, 1970
=== ===== ========== ====

Population enrolled in school by age (15%) --
        age      students
        3-4           956
        5-6         8,067
        7-13       49,907
        14-15      14,357
        16-17      11,893
        18-19       5,320
        20-21       1,334
        22-24       1,054
        25-34       1,884
```

Figure 11. (Cont'd)

Count of employed persons by industry

```
 0  10,739      Agriculture, forestry, fisheries
 1     381      Mining
 2   9,041      Construction
 3   3,134      Furniture and lumber and wood products
 4     152      Primary metal industries
 5     386      Fabricated metal industries
 6     462      Machinery, except electrical
 7     130      Electrical machinery, equipment, and supplies
 8   1,830      Motor vehicles and other trans. equipment
 9   1,445      Other durable goods
10   3,103      Food and kindred products
11   6,727      Textile mill and other textile products
12     655      Printing, publishing, and allied industries
13     637      Chemical and allied products
14   4,158      Other nondurable goods
15     571      Railroads and railway express service
16   1,108      Trucking service and warehousing
17   3,430      Other transportation
18   1,568      Communications
19   2,066      Utilities and sanitary services
20   3,918      Wholesale trade
21   3,423      Food, bakery, and dairy stores
22   3,051      Eating and drinking places
23   2,943      General merchandise retailing
24   3,608      Motor vehicles retailing and service stations
25   7,086      Other retail trade
26   1,397      Banking and credit agencies
27   1,980      Insurance, real estate, and other finance
28     839      Business services
29   1,613      Repair services
30   4,557      Private households
31   4,593      Other personal services
32     661      Entertainment and recreation services
33   4,099      Hospitals
34   2,024      Med. and other health services except hospitals
35   6,567      Public education
36   1,003      Private education
37     496      Other education and kindred services
38   1,416      Welfare, religious, and nonprofit organizations
39   2,037      Legal, engineering, and misc. professional services
40   7,754      Public administration
```

Source: Bureau of the Census

        Census of Population and Housing, 2nd and 4th Counts, 1970
        County and City Data Book, 1967
        Census Of Governments, 1972
        Economic Censuses, 1972

                        Figure 11. (Cont'd)

```
What profile? (<cr> to see list):  3
Calculating Multiplier.
Employment Multiplier:  2.1221
Income Multiplier:      1.7604


"Valado" Overview Profile

Export employment multiplier:             2.122
Export income multiplier:                 1.658
Constant relating tpi to tbv:             0.6339
Value added per empl          $   10,081.00


Housing:
Total assessed valuation:       $ 696,899,000.00
Assessed to market value ratio:       46.44%
Property tax rate:                     3.44%
Average rent:                   $     57.19

Business volume:             1967                     1972
Manufacturing:       $   165,500,000.00      $   244,200,000.00
Retail:              $   446,251,000.00      $   696,631,000.00
Service:             $    49,389,000.00      $   102,697,000.00
Wholesale:           $   335,108,000.00      $   648,336,000.00
Total                $   996,248,000.00      $1,691,864,000.00

EDUCATION
=========

Students aged 3 to 19:                      90,500
Children aged 0 to 19:                     141,036
Percent attending school:                   64.17%
Cost of education per student:             $872.49
Percent federal aid:                        16.17%
Percent state aid:                          54.15%

County operating budget for non-education:           $  52,269,000.00
State sales tax rate:                                 3.83%
Percent of sales tax retained locally:               51.14%
```

Figure 12. "Valado" overview profile.

What profile? (<cr> to see list): 4
Short BEA Timeseries Profile

Income:

year	non farm	private	government	personal
1959	308,765,000	211,322,000	97,443,000	394,369,000
1962	345,717,000	234,993,000	110,724,000	449,421,000
1965	451,896,000	312,559,000	139,337,000	579,799,000
1966	518,454,000	344,483,000	173,971,000	647,262,000
1967	556,933,000	371,366,000	185,567,000	703,384,000
1968	623,924,000	410,564,000	213,360,000	781,286,000
1969	700,064,000	456,532,000	243,532,000	874,814,000
1970	782,814,000	499,379,000	283,435,000	979,883,000
1971	836,576,000	534,151,000	302,425,000	1,071,241,000
1972	877,861,000	589,628,000	288,233,000	1,144,348,000
1973	994,081,000	689,158,000	304,923,000	1,332,582,000
1974	1,101,994,000	766,241,000	335,753,000	1,497,658,000
1975	1,155,180,000	784,779,000	370,401,000	1,623,936,000
1976	1,314,916,000	916,533,000	398,383,000	1,805,737,000
1977	1,440,043,000	1,020,641,000	419,402,000	1,948,703,000
1978	1,618,344,000	1,151,697,000	466,647,000	2,222,621,000

Employment and Population:

year	employment	population
1959		317,672
1962		333,470
1965		333,529
1966		343,407
1967	138,547	345,390
1968	141,705	349,193
1969	147,390	351,156
1970	151,179	357,248
1971	150,135	363,464
1972	147,353	364,852
1973	154,329	365,741
1974	158,214	375,758
1975	157,685	385,008
1976	162,758	387,376
1977	167,811	390,626
1978	174,331	395,058

Source: Bureau of Economic Analysis

Figure 13. Short BEA employment/income timeseries profile.

```
What profile? (<cr> to see list):  5
Detailed BEA Timeseries Profile

Employment by Broad Industrial Sources
Full/Part-time Wage/Salary Employment Plus Number of Proprietors
```

Industry	1978	
Total Employment	174,331	
Number of Proprietors	22,031	
Farm Proprietors	10,549	
Proprietors	1,482	
Total Wage & Salary Employment	152,300	
Farm	4,821	
Non-Farm	147,478	
Private	104,616	
Ag Serv., For., Fish., & Other	179	d
Mining	13	d
Construction	9,964	
Manufacturing	30,867	
Non-Durable Goods	18,863	d
Durable Goods	11,641	d
Transportation & Public Utils.	5,488	d
Wholesale Trade	6,512	d
Retail Trade	22,594	
Finance, Ins., & Real Estate	4,541	d
Services	22,432	d
Government	42,863	
Federal Civilian	7,503	
Federal Military	12,564	
State & Local	22,788	

Figure 14. Detailed BEA employment/income timeseries profile.

36

Income by Type and by Broad Industrial Sources
Derivation of Personal Income by Place of Residence
(Thousands of Dollars)

Source	1978	
Wage & Salary Disbursements	1,413,698	
Other Labor Income	116,462	
Proprietors' Income	201,754	
Farm	88,539	
Non-Farm	13,215	
Farm	113,570	
Non-Farm	1,618,344	
Private	1,151,697	
Ag Serv., For., Fish., & Other	1,678	d
Mining	205	d
Construction	149,308	
Manufacturing	366,855	
Non-Durable Goods	213,875	d
Durable Goods	150,653	d
Transportation and Public Utils.	93,831	d
Wholesale Trade	80,082	d
Retail Trade	185,190	
Finance, Ins., & Real Estate	59,705	d
Services	193,682	d
Government	466,647	
Federal Civilian	125,024	
Federal Military	132,817	
State & Local	208,806	
Total Income by Place of Work	1,731,914	
(-) Social Insurance	86,772	
Net Income by Place of Work	1,645,142	
(+) Residence Adjustment	-33,894	
Net Income by Place of Residence	1,611,248	
(+) Dividends, Interest, & Rent	227,532	
(+) Transfer Payment	383,841	
Personal Income by Place of Resid.	2,222,621	
Per Capita Personal Income ($)	5,802	
Total Population	395,058	

Source: Bureau of Economic Analysis
d indicates a full or partial nondisclosure
1 indicates rounding of small value.

Figure 14. (Cont'd)

What profile? (<cr> to see list): 6

BLS Labor Force Timeseries Profile

1978 Labor Force Profile

Date	Labor Force	Employment		Unemployment	
		Number	Rate	Number	Rate
Jan '78	157,413	144,177	91.59%	13,236	8.41%
Feb '78	156,355	145,992	93.37%	10,363	6.63%
Mar '78	158,983	148,559	93.44%	10,424	6.56%
Apr '78	163,508	153,725	94.02%	9,783	5.98%
May '78	165,026	155,692	94.34%	9,334	5.66%
Jun '78	170,300	159,614	93.78%	10,686	6.27%
Jul '78	172,124	160,633	93.32%	11,491	6.68%
Aug '78	171,030	160,816	94.03%	10,214	5.97%
Sep '78	172,038	161,385	93.81%	10,653	6.18%
Oct '78	171,752	161,049	93.77%	10,703	6.23%
Nov '78	166,908	157,001	94.06%	9,907	5.94%
Dec '78	165,417	154,714	93.53%	10,703	6.47%
Annual Average	165,905	155,279	93.60%	10,626	6.40%

Source: Bureau of Labor Statistics

Figure 15. BLS labor force timeseries profile.

```
What profile? (<cr> to see list):  7
What level of detail?  (type ? for help):  ?

type 0 for total employment
type 1 for division level and above
type 2 for 2-digit level and above
type 3 for 3-digit level and above
type 4 for 4-digit level and above
type - to abort this profile

What level of detail?  (type ? for help):  2

Count of employed persons by detailed industry
  SIC    Employment   Industry


            113,549   total
01--          3,951   farm workers (BEA)
07--            756   agric. srvcs forestry fisheries
0700            173     agric. srvcs & hunting
0800            181     forestry
0900            117     fisheries
10--            370   mining
1400            176     nonmetallic minerals exc. fuels
15--          6,532   contract construction
1500          3,030     general building contractors
  .              .              .
  .              .              .
  .              .              .
  .              .              .
  .              .              .
6400            228   insur. agents brokers & service
6500            669   real estate
70--          9,381   services
7000          1,394     hotels & other lodging places
7200          1,316     personal srvcs
7300          1,088     misc. business srvcs
7500            469     auto repair srvcs & garages
7600            168     misc. repair srvcs
7900            332     amusement & recrtn. srvcs n.e.c.
8000          1,905     medical & other health srvcs
8100             88     legal srvcs
8200            160     educ. srvcs
8600            646     nonprofit membership organizations
8900            229     misc. srvcs
91--         21,099   total federal (BEA)
92--         17,540   state & local (BEA)
99--            717   unclassified establishments
```

Source: Bureau of the Census, County Business Patterns, 1972

Figure 16. Detailed employment profile.

What profile? (<cr> to see list): 8

What level of detail? (type ? for help): 2

Export (Basic) Employment Profile

symbols:
Eir is local employment in industry i
E*r is total local employment
Ei* is national employment in industry i
E** is total national employment

Xir is local export employment in industry i
X*r is total local export employment
LQ+ is a pseudo location quotient derived from Xir
all ratios are percentages.

SIC	Eir	Xir	LQ+	Xir/Eir	Xir/E*r	Xir/X*r	Eir/E*r	Ei*/E**
----	113549	53507	1.891	47.122	47.122	100.000	100.000	100.000
01--	3951	2195	2.249	55.544	1.933	4.101	3.480	1.547
07--	756	548	3.638	72.514	0.483	1.025	0.666	0.274
0800	181	171	18.168	94.496	0.151	0.320	0.159	0.009
0900	117	92	4.723	78.826	0.081	0.172	0.103	0.022
10--	370	110	1.426	29.851	0.097	0.206	0.326	0.802
1400	176	110	2.685	62.756	0.097	0.206	0.155	0.142
15--	6532	2915	1.806	44.623	2.567	5.448	5.753	4.563
1500	3030	1552	2.050	51.214	1.367	2.900	2.668	1.302
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
6500	669	174	1.351	25.998	0.153	0.325	0.589	1.094
70--	9381	3474	1.588	37.035	3.060	6.493	8.262	14.908
7000	1394	1271	11.333	91.176	1.119	2.375	1.228	1.113
7200	1316	156	1.134	11.848	0.137	0.291	1.159	1.231
7300	1088	337	1.448	30.949	0.297	0.629	0.958	2.243
7500	469	48	1.115	10.303	0.043	0.090	0.413	0.545
7900	332	69	1.262	20.764	0.061	0.129	0.292	0.628
8000	1905	405	1.270	21.247	0.356	0.756	1.678	4.351
91--	21099	21099	********	100.000	18.581	39.433	18.581	5.103
92--	17540	1134	1.069	6.466	0.999	2.120	15.447	14.448

Source: Bureau of the Census, County Business Patterns, 1972.

Figure 17. Export employment profile.

40

What profile? (<cr> to see list): 9

1977 County Business Patterns

What level of detail? (type ? for help): 2

Sic	Key	Employment	Industry
----		84,073	Total
07--	D]	300-441	Agricultural Services, Forestry, Fisheries
0700	D]	153-344	Agricultural Services
0800	D]	20-113	Forestry
0900	D]	33-65	Fishing, Hunting, and Trapping
10--	D]	417-512	Mining
1300	B]	20-52	Oil and Gas Extraction
1400	D]	397-479	Nonmetallic Minerals, except Fuels
15--	[D]	6,148-6,177	Contract Construction
1500	[D]	1,963-2,253	General Building Contractors
.		.	.
.		.	.
.		.	.
.		.	.
.		.	.
.		.	.
7600	D]	284-341	Miscellaneous Repair Services
7800	D]	60-286	Motion Pictures
7900	D]	498-644	Amusement Recreation Services
8000	D]	3,671	Health Services
8100	D]	244-323	Legal Services
8200	D]	393-680	Educational Services
8300	D	296-372	Social Services
8400	A	0-19	Museums, Botanical, Zoological Gardens
8600	D	953-975	Membership Organizations
8900	D]	444-577	Miscellaneous Services
899a	D]	20-81	Administrative and Auxiliary
99--	D	126-211	Unclassified Establishments

Non-disclosure keys (minimum-maximum):
A:	0-19	B:	20-99	C:	100-249	E:	250-499
F:	500-999	G:	1,000-2,499	H:	2,500-4,999	I:	5,000-9,999
J:	10,000-24,999	K:	25,000-49,999	L:	50,000-99,999	M:	100,000+

D: aggregated non-disclosures.

Source: Bureau of the Census, County Business Patterns, 1977

Figure 18. 1977 County Business Patterns profile.

What profile? (<cr> to see list): 10

Sub-county demographic profiles

dale, al: 5 MCDs or Tracts

Which demographic profile? (type ? for help): ?

type: for:
  1   population counts
  2   household counts
  3   per capita and mean household income
  4   population and per capita income
  5   households and mean household income
  6   households and median household income
  7   1978/1979 population, households, and income
  8   1970 household counts by household income
  9   1978 household counts by household income
 10   MCD/Tract names and codes
 11   next county
 -1   to quit

Which demographic profile? (type ? for help): 7

1978/1979 population, households, and income

UNIT/CODE	1979 POP	1979 HHS	1978 PCI	1978 HHI	AREA NAME
C 01045	42,210	12,404	4,925	16,180	dale, al
M 5	2,226	706	4,869	15,205	ARITON DIV
M 10	1,364	449	4,961	14,976	ECHO DIV
M 15	3,493	1,099	4,348	13,702	MIDLAND-PINCKARD D
M 20	9,464	3,221	5,104	14,869	NEWTON DIV
M 25	25,663	6,929	4,925	17,467	OZARK DIV

Source: National Planning Data Corporation, 1979

Which demographic profile? (type ? for help): 9

1978 household counts by household income

UNIT/CODE	under $7,500	$7,500 -14,999	$15,00 -24,999	$25,000 -34,999	$35,000 -49,999	$50,000 or more	AREA NAME
C 01045	3,570	2,786	3,186	1,875	678	184	dale, al
M 5	322	129	177	121	31	16	ARITON DIV
M 10	196	96	124	96	15	5	ECHO DIV
M 15	361	179	219	169	15	8	MIDLAND-PINCKARD D
M 20	1,045	754	881	569	196	53	NEWTON DIV
M 25	1,646	1,628	1,785	920	421	102	OZARK DIV

Source: National Planning Data Corporation, 1979

Which demographic profile? (type ? for help): -1

Figure 19. Population/households/income by tract/minor civil division profile.

What profile? (<cr> to see list):   13

Rational Threshold Values

All dollar amounts are in thousands of dollars.
Dollar adjustment based on Consumer Price Index (1967=100).

BUSINESS VOLUME (using Non-Farm Income)

YEAR	Non-Farm income	adjusted income	change	deviation	% deviation
1965	451,896	478,197			
1966	518,454	533,389	55,192	20,190	4.222 %
1967	556,933	556,933	23,544	-11,458	-2.148 %
1968	623,924	598,775	41,842	6,840	1.228 %
1969	700,064	637,581	38,806	3,803	0.635 %
1970	782,814	673,099	35,518	515	0.081 %
1971	836,576	689,675	16,576	-18,426	-2.738 %
1972	877,861	700,607	10,932	-24,070	-3.490 %
1973	994,081	746,868	46,261	11,258	1.607 %
1974	1,101,994	746,103	-765	-35,767	-4.789 %
1975	1,155,180	716,613	-29,490	-64,492	-8.644 %
1976	1,314,916	771,212	54,599	19,596	2.735 %
1977	1,440,043	793,412	22,200	-12,802	-1.660 %
1978	1,618,344	828,221	34,809	-193	-0.024 %

average yearly change: 35,002
maximum historic positive deviation: 20,190
maximum historic negative deviation: -64,492

positive rtv: 4.22 %
negative rtv: -6.483 %

Figure 20. RTV profile.

PERSONAL INCOME

YEAR	Personal income	adjusted income	change	deviation	% deviation
1965	579,799	613,544			
1966	647,262	665,907	52,363	-29	-0.005 %
1967	703,384	703,384	37,477	-14,916	-2.240 %
1968	781,286	749,795	46,411	-5,982	-0.851 %
1969	874,814	796,734	46,939	-5,453	-0.727 %
1970	979,883	842,548	45,814	-6,579	-0.826 %
1971	1,071,241	883,134	40,586	-11,807	-1.401 %
1972	1,144,348	913,287	30,153	-22,240	-2.518 %
1973	1,332,582	1,001,189	87,902	35,509	3.888%
1974	1,497,658	1,013,986	12,798	-39,595	-3.955 %
1975	1,23,936	1,007,405	-6,582	-58,975	-5.816 %
1976	1,805,737	1,059,083	51,679	-714	-0.071 %
1977	1,948,703	1,073,666	14,582	-37,811	-3.570 %
1978	2,222,621	1,137,472	63,807	11,414	1.063 %

average yearly change: 52,393
maximum historic positive deviation: 35,509
maximum historic negative deviation;   -58,975
positive rtv: 3.888 %
negative rtv: -3.897 %

EMPLOYMENT

YEAR	Employment	change	deviation	% deviation
1967	138,547			
1968	141,705	3,158	-95	-0.069 %
1969	147,390	5,685	2,432	1.716 %
1970	151,179	3,789	536	0.364 %
1971	150,135	-1,044	-4,297	-2.842 %
1972	147,353	-2,782	-6,035	-4.020 %
1973	154,329	6,976	3,723	2.527 %
1974	158,214	3,885	632	0.409 %
1975	157,685	-529	-3,782	-2,390 %
1976	162,758	5,073	1,820	1.154 %
1977	167,811	5,053	1,800	1.106 %
1978	174,331	6,520	3,267	1.947 %

average yearly change: 3,253
maximum historic positive deviation: 3,723
maximum historic negative deviation: -6,035
positive rtv: 2.527 %
negative rtv: -2.693 %

Figure 20. (Cont'd)

POPULATION

YEAR	Population	change	deviation	% deviation
1965	333,529			
1966	343,407	9,878	5,145	1.543 %
1967	345,390	1,983	-2,750	-0.801 %
1968	349,193	3,803	-930	-0.269 %
1969	351,56	1,963	-2,770	-0.793 %
1970	357,248	6,092	1,359	0.387 %
1971	363,464	6,216	1,483	0.415 %
1972	364,852	1,388	-3,345	-0.920 %
1973	365,741	889	-3,844	-1.054 %
1974	375,758	10,017	5,284	1.445 %
1975	385,008	9,250	4,517	1.202 %
1976	387,376	2,368	-2,365	-0.614 %
1977	390,626	3,250	-1,483	-0.383 %
1978	395,058	4,432	-301	-0.077 %

average yearly change:		4,733
maximum historic positive deviation:		5,284
maximum historic negative deviation:		-3,844
positive rtv:		1.445 %
negative rtv:		-0.527 %

Source: Bureau of Economic Analysis

Figure 20. (Cont'd)

What profile? (<cr> to see list): 98

New or Experimental Profiles Available for Sampling:

Type:	For:
45	CERL-RIMS
60	DLA profile
71	CAS
75	Review of your county list
78	Do-It-Yourself Population Pyramids (1970-1977)
83	BEA Graphics Demo (Ramtek terminal only)
84	ROI-Within-State(s) plot (Ramtek terminal only)
85	ROI plot (Ramtek terminal only)
86	AFLECS (Loser) Input Editor
87	AFLECS (Gainer) Input Editor
88	Population Pyramid
89	Population Pyramid by County
90	Population Pyramid by Year
91	Population by Sex and Age, 170-1975
97	Description of EIFS 2.5 versus EIFS 2.3

What profile? (<cr> to see list):

Figure 21. Menu of experimental profiles.

```
What profile?  (<cr> to see list): 45

                        CERL-RIMS
   Calculates multipliers for IO Codes specified by user.
   Uses 1977 CBP data, 1977 BEA data, and a 1972 IO table.

Non-disclosure ranges are replaced by the midpoint of the range.



Enter new IO code list
   type    ?                to see list of codes
           x                to see your choices
           q or bye         to leave profile
           up to 6 digits   to enter a code
           <cr>             to stop entering codes

Enter  ?  x  q  bye  <cr>  or IO code: 140600
140600  Fluid Milk

Enter  ?  x  q  bye  <cr>  or IO code: 140500
140500  Ice Cream & Frozen Desserts

Enter  ?  x  q  bye  <cr>  or IO code:

Your list has 2 codes:
  29   IO: 140500
  30   IO: 140600

Do you wish to add or delete a code?  (a/d/<cr>):
list complete

# IO codes: 2     # SIC codes - US: 2    Area: 2

Do you want to calculate Multipliers?
                                    *** type  s  to stop *** :
  29   IO: 140500   Weight: 0.716049
  30   IO: 140600   Weight: 0.283951


******************** CERL-RIMS Multiplier Computations ********************

Direct Effect (DE)                                               0.568200
  Goods and Services Purchased Locally            0.399238
  Labor Hired Locally                             0.168962

Indirect Effect (IE)                                             0.309792
  Agr Share of Local Non-Govt Earnings (P1)       0.059584
  Mfg Share of Local Non-Govt Earnings (P2)       0.291201
  Local Share of US Non-Govt Earnings (S2)        0.001122
  ln(IE) = .65 - .79*P1 - .13*P2 + .17*ln(S2) + 1.03*ln(DE)
  ln(IE)                                         -1.171854

Output Multiplier (Mq) = 1 + DE + IE                             1.877992

Employment Multiplier (Me) = 1 + (E./Ej)*(Mq - 1)                2.658065
  Employment per Output - Avg (E.)                0.000031
  Employment per Output - Selected Industries (Ej) 0.000017

Income Multiplier (Mi) = 1 + (I./Ij)*(Mq - 1)                    2.231822
  Income per Output - Avg (I.)                    0.237053
  Income per Output - Selected Industries (Ij)    0.168962

******************** Pausing - <cr> to return to eifs ********************
```

Figure 22. CERL-RIMS profile.

```
What profile  (<cr> to see list):   60
Calculating Multiplier.
Employment Multiplier:  2.1221
Income Multiplier:      1.7604

Do you want to use FSC or SIC commodity codes (fsc or sic) ? sic
Which SIC commodity code (type ? for help) :   2791
Your SIC commodity class is:
Code:  2791
Title:  Typesetting
Are you satisfied ? yes

What is the dollar value of the contract ? 50000
```

> The maximum number of employees expected to be either
> hired or laid off because of a contract award is: 1.2

> The minimum number of employees expected to be either
> hired or laid off because of a contract award is: 0.9

> The average number of employees expected to be either
> hired or laid off because of a contract award is: 1.0

> How many employees will be hired or laid off because of
> the contract award according to the employer (i.e.,
> employer's representation) ? 1

The employment multiplier is: 2.076931

> The total employment impact on the local economy due to
> the contract award (using the employer's representation)
> is: 2.1

> The total employment impact on the local economy due to
> the contract award (using the average number of employees
> expected to be hired or laid off by the contract)
> is: 2.1

> If the contractor hires workers due to a contract award,
> the total employment impact is positive. If the
> contractor lays off workers because the contract is not
> awarded, then the total employment impact is negative.

Figure 23. DLA profile.

47

What profile? (<cr> to see list): 71
Your login 'robinson' is restricted

        Aloha from CAS

                      Figure 24. CAS profile.

What profile? (<cr> to see list): 75

You have selected 13 counties:

#	FIPS#	county
1	01045	dale, al
2	01061	geneva, al
3	01067	henry, al
4	01069	houston, al
5	12005	bay, fl
6	12045	gulf, fl
7	12063	jackson, fl
8	12131	walton, fl
9	13007	baker, ga
10	13099	early, ga
11	13131	grady, ga
12	13201	miller, ga
13	13275	thomas, ga

              Figure 25. Review of county list profile.

```
What profile?  (<cr> to see list):  78

Do-It-Yourself Population Pyramids

Option (type ? for help)? ?

Valid keywords are:
   help, plot, list, area, time, race, review, quit

Option (type ? for help)? race
Which race option (type ? for help)? ?

Valid keywords are:
   help, total, white, nonwhite, both, current, leave

Which race option (type ? for help)? both
White Population and Nonwhite Population selected.
Option (type ? for help)? time
Which time option (type ? for help)? ?

Valid keywords are:
   help, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, all, current
   leave

Which time option (type ? for help)? 1977
1977 added
Which time option (type ? for help)? leave
```

Figure 26. Do-it-yourself population pyramids profile.

49

Option (type ? for help)? plot

Regional Aggregate - White Population - 1977

```
                        male        age   female
                         **         85+   ****
                        ***        80-84  ******
                       *****       75-79  *******
                     *********     70-74  *************
                   *************   65-69  ***************
                 ****************  55-59  ******************
                *****************  50-54  *****************
                ****************   45-49  *****************
                ****************   40-44  *****************
               *****************   35-39  ******************
             *********************  30-34  ***********************
          **************************  25-29  *****************************
        ****************************  20-24  *******************************
        *****************************  15-19  *******************************
         ***************************  10-14  ****************************
          **************************   5-9   **************************
          *************************    0-4   *************************
```

Each "*" represents 408 persons; pyramid total is 298,626.

Regional Aggregate - Nonwhite Population - 1977

```
                        male        age   female
                         *          85+   ***
                        **         80-84  ***
                       ***         75-79  ****
                      *****        70-74  ********
                    *******        65-69  ***********
                    *******        60-64  ***********
                    ********       55-59  *************
                   *********       50-54  **************
                   *********       45-49  **************
                   *********       40-44  **************
                  **********       35-39  ***************
                 ***********       30-34  *******************
               ***************     25-29  ********************
        **************************  20-24  ***************************
      ******************************  15-19  ****************************
       *****************************  10-14  *****************************
         **************************   5-9   ********************************
         *************************    0-4   *****************************
```

Each "*" represents 167 persons; pyramid total is 92,021.

Source: Bureau of the Census

Figure 26. (Cont'd)

50

```
What profile?  (<cr> to see list):  86

AFLECS (Loser) Editor (Version 1.0)

Which option (type ? for a menu) ? ?

Type:   To:
   1    See a list of your existing files
   2    Get a printout of the input questionnaire
   3    Enter inputs from your terminal
   4    Get the inputs from one of your files
   5    Remove one of your files
   6    See the inputs you have loaded
   7    Run the AFLECS Model
   8    Examine/change your inputs
   9    Store your inputs in a file
  -1    Leave the editor

Which option (type ? for a menu) ? -1
```

Figure 27. AFLECS (Loser) input editor profile.

```
What profile?  (<cr> to see list):  87

AFLECS (Gainer) Editor (Version 1.0)

Which option (type / for a menu) ? ?

Type:   To:
   1    See a list of your existing files
   2    Get a printout of the input questionnaire
   3    Enter inputs from your terminal
   4    Get the inputs from one of your files
   5    Remove one of your files
   6    See the inputs you have loaded
   7    Run the AFLECS Model
   8    Examine/change your inputs
   9    Store your inputs in a file
  -1    Leave the editor


Which option (type ? for a menu) ? -1
```

Figure 28. AFLECS (Gainer) input editor profile.

What profile? (<cr> to see list): 97

A new EIFS program has been installed. This new version presents new data and additional user features.

New features have been added for study area selection:

1) User-defined regions. With the "save" option, you can store and name a frequently used study area definition for retrieval during a later EIFS session.

2) SMSAs. EIFS recognizes standard SMSAs.

3) Help. You can obtain lists of states, counties within a state, standard regions, or user-defined regions on demand.

New data have been added to the EIFS database:

1) 1980 Census. Profile 1 for digested form, profile 80 for unabridged.

2) 1977 County Business Patterns. Available in profile 9.

3) 1978 BEA timeseries. Available in profile 5.

4) 1979 Sub-county demographics. Available in profile 10.

To make room for the new profiles, the menu has been re-arranged; profiles have been renumbered and/or replaced by new ones.

Figure 29. Description of EIFS 2.5 versus EIFS 2.3 profile.

The Nature of the EIFS Forecast Models

EIFS contains two versions for each of five separate submodels, both with and without automatic inflation correction. Each of the submodels corresponds to one of five functional areas (FAs) of military actions:[17]

1. Construction (C)
2. Operations and Maintenance (O&M)
3. Training (T)
4. Mission Change (MC)
5. Contractor/Industrial Type Activities (CITA)

These FAs not only represent different military functions, but they are also likely to create different economic and social effects in the surrounding community. The differences in these socioeconomic effects are chiefly due to the differences in procurement and consumer expenditures for locally produced goods and services (both in total and in terms of the commodity distribution) associated with each FA. For example, on the average, military trainees who live on-post spend less of their income in the local economy than civilian personnel who reside off-post; their patterns of expenditures for various goods and services are also likely to differ. These differences are explained partly by the fact that trainees are generally provided room and board, whereas civilian employees are not. Several other demographic factors that differ between trainees and civilians will also affect the portion of income spent locally and their expenditure patterns; these include marriage rates, number of dependents, and age, sex, and racial compositions.

Even though EIFS consists of a set of five separate forecast models, they are similar enough to be considered as a "generic" regional economic impact model. Figure 30 illustrates the general model structure found in all of the EIFS forecast models. The figure is useful because it not only shows the relationship that a military action has with its regional economy, but also summarizes the interrelationships among and between the various economic and social sectors of the community. More importantly, Figure 30 provides an invaluable tool for understanding the equations for each submodel given in Appendix A.

Regardless of the FA, a military action will usually involve a change in personnel, their wages and salaries, and local procurements for materials and supplies. In EIFS, personnel are classified as either civilian, military permanent party, or military trainee. A further distinction is made between military personnel living on-post, both permanent party and trainee, and those living in the region around the installation. However, EIFS assumes that all civilian employees live off-post.

The only demographic variable explicitly modeled in EIFS is the number of school children who impact local school districts. These children are assumed to be dependents of the civilian and military personnel directly affected by the military action. Population is implicitly modeled here to the extent that only those civilian and military personnel involved with the military action

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[17]R. Webster, et al., Interim Report E-52.

53
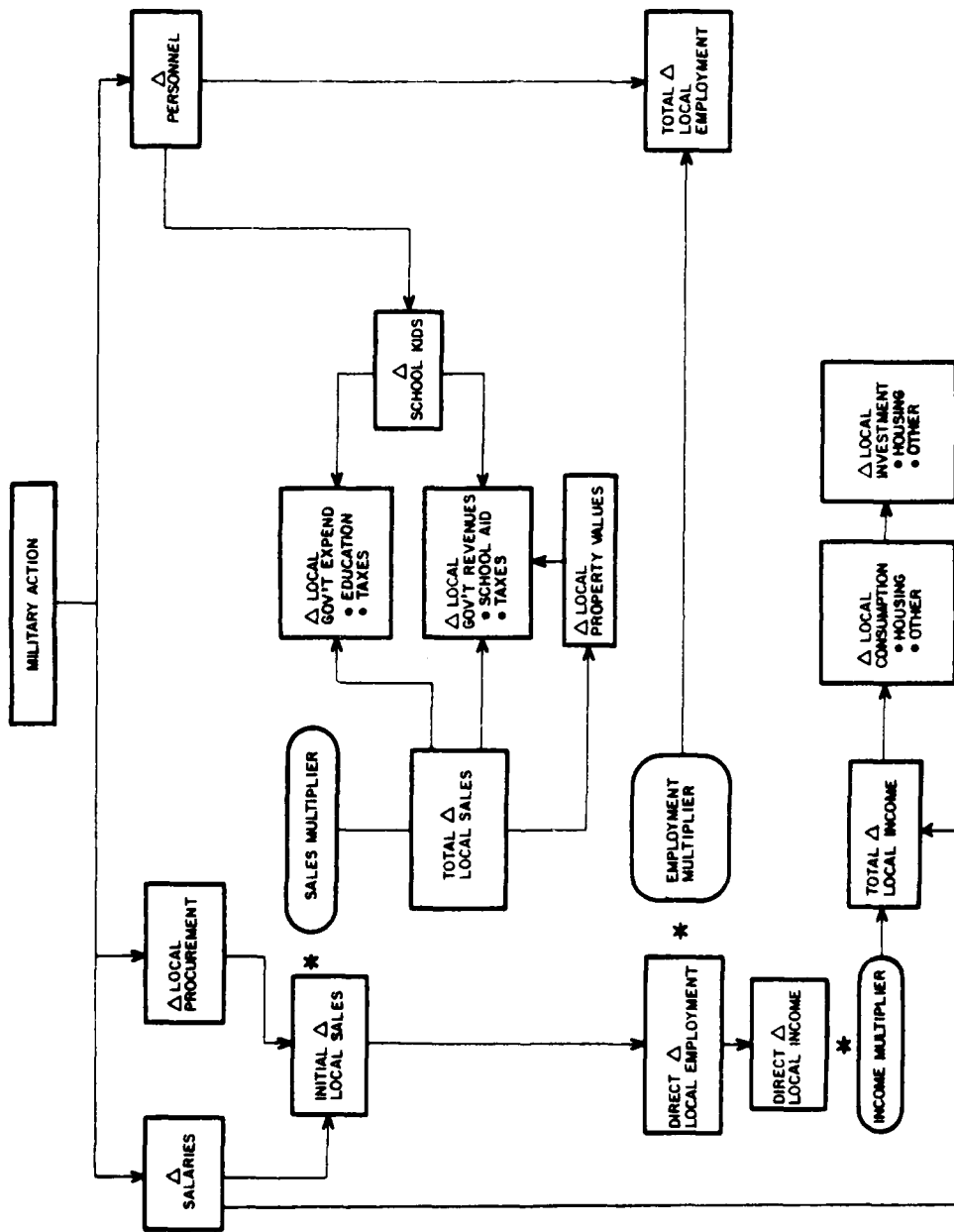
Figure 30. The "generic" EIFS forecast model.

and their dependents are counted in the population change. EIFS does not estimate the local population effects that may be induced as a result of the economic impacts from a military action.

Changes in salaries and local procurements are converted into an initial change in local sales. Local procurements for materials and supplies are assumed to go to merchants who sell wholesale goods or business and professional services. Personnel salaries are converted to local sales of retail goods and personnel services by factors that represent the portion of income spent in the region. These factors differ for civilians and various types of military personnel; they also account for the differences in consumer purchases at post commissary and exchange facilities by military personnel living on- and off-post.

In terms of national income accounting principles, local sales for wholesale and retail goods do not represent the "output" for those sectors, because the value of the sales includes the cost of the goods that are sold. Normally, the trade sectors are treated as "margin" sectors, meaning the value of the goods sold by local merchants is subtracted from their sales. In other words, wholesale and retail trade merchants only sell products; they do not make them. Consequently, the cost of the goods sold is usually treated as sales for those sectors that produce the commodities. To the extent that the commodities sold by local trade merchants are not produced locally, the EIFS forecast models overestimate the initial effect of a military action within the local economy.[18]

Local merchants are assumed to hire or lay off employees because of the initial change in sales. Furthermore, this direct change in local employment is presumed to be proportional to the initial change in local sales. Like the initial change in sales, these workers are employed at either trade or service sector establishments. In addition to employment changes, the initial change in local sales will also affect the wages and salaries of employees in the affected businesses.

The direct changes in local employment and local income will generate subsequent local employment and income changes. The overall subsequent changes in local employment and income caused by the initial change in local sales are called the multiplier process. The multiplier process can be quantified as a "multiplier," which estimates the total changes that result from an initial change. EIFS estimates and uses three types of multipliers: employment, income, and sales multipliers. Consequently, the total change in local employment due to a military action is equal to the product of the direct change in local employment and the employment multiplier, plus the military and civilian personnel who were affected by the military action. The total change in local income due to a military action is equal to the product

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[18]For example, U.S. wholesale and retail trade sales receipts for 1972 are about seven times greater than the value added. The 1972 U.S. sales receipts for wholesale and retail trade were $1,154,264,000,000 according to the 1972 Censuses of Wholesale and Retail Trade. The 1972 U.S. value added for wholesale and retail trade was $166,103,000,000, according to the 1972 National Input-Output Table (Survey of Current Business, April 1979, pp 51-72).

of the direct change in local income and the income multiplier, adjusted to reflect local personnel income by place of residence, plus the income of the military and civilian personnel who were affected by the military action. Employment and income changes calculated in EIFS are "full-time" equivalents; i.e., two workers employed for 4 hours a day is the same as one employee working an 8-hour day. Also, total change in local personal income does not include the effects of overtime pay, night-pay differentials, weekend pay, etc. Local personal income in EIFS is defined as the sum of wages and salaries, dividends, interest, rents, transfer payments, and net social insurance payments. The total change in local sales (i.e., business volume) from a military action is equal to the product of the direct change in local sales and the sales multiplier.

Consistent with Keynesian income theory, EIFS relates changes in local consumption to changes in local income. Change in local consumer expenditures for housing and other commodities, such as food, clothing, personal services, etc., are related to changes in local personal income via average propensities to consume. The local populace is assumed to spend 16 percent of its personal income for local housing; the average propensity to consume goods and services other than housing is assumed to be 63 percent of personal income. Differences between house owners and renters are not specified in EIFS, and the average propensities to consume are national averages which do not reflect any regional differences in expenditure patterns.

On the other hand, changes in the local investment reflect changes in the demand for locally produced goods and services. That is, local investment in the business sectors is derived from changes in local consumer expenditures for the goods and services produced in those sectors. Investment in local housing is, in reality, related to changes in local rental income, which, in turn, is computed from changes in local housing expenditures. The factor relating changes in local rental income to changes in local housing expenditures is a national average of 7.75. The average propensity to invest in local housing out of the changes in local rental income is also a national constant, equal to .06. On the other hand, investment in local firms producing goods and services other than housing is derived directly from the changes in consumer demand. The average propensity to invest in local non-housing-type businesses is also a national constant, equal to .12 of the change in local non-housing type consumer expenditures.

The attractiveness of a community relative to the rest of the nation in terms of business location and population residential choices is related to factors such as the area's relative position with respect to personal income, business activity, employment, etc. A military action which affects local business activity, income, employment, and other factors does so in a way that changes the local economy's attractiveness for business and population location. Consequently, these changes are likely to generate changes in the demand for available property. Assuming the supply of property is rather "inelastic" during the short term (i.e., about 1 year), changes in demand for local property will be reflected in changes in local property values. That is, changes in the market value for real property depend on changes in the general level of local prosperity (measured by changes in local business volume). Within EIFS, it is the relative annual change in local business volume that is converted to changes in local property values via a region-specific

factor relating the assessed value of local property to an assessed-to-market-value ratio. "Property" is considered in total within EIFS and is not disaggregated by classifications such as agricultural, residential, commercial, or industrial.

Local government functions are broken down into "education" and "other." Other local government functions include such things as fire and police protection, public welfare and assistance, and sanitation. The change in the number of school children affects both local government expenditures for education (via the average local education expenditures per pupil) and State and Federal aid to local school districts. Changes in local government revenues other than school aid are due to changes in State sales taxes (i.e., via changes in local business activity) retained locally and to changes in local property taxes (i.e., via changes in local property values). EIFS does not estimate changes in local income taxes (where they exist). Finally, changes in local government expenditures to provide services other than education are related to relative annual changes in local business activity.

Running the Models

Entering the Forecast Models Profile

Access to the EIFS forecast models is gained through the Forecast Models Profile (#12) (Figure 31).

Construction FA

The Construction FA forecast models estimate the economic and social consequences of a construction project. The construction project is assumed to be carried out by a construction firm, so that neither the civilian nor the military personnel of the installation are involved in the activity. The original intent and the current structure of the Construction FA model is to simulate the regional socioeconomic effects from constructing post housing for military personnel. The exact scenario modeled here includes the positive socioeconomic impact on a region from building the housing units. The magnitude of these positive effects depends mostly on the extent to which local laborers are used for the construction project and on how much the construction contractor depends on local merchants for needed materials and supplies. On the other hand, the positive effects of the construction activity could be balanced by the negative local economic and social consequences generated because the military personnel and their dependents move into the newly built post housing from the surrounding communities. This means that rents will not be paid for local housing, the affected military personnel and their dependents will acquire a greater share of their goods and services from the post commissary and exchange facilities, and school-age dependents will be attending schools on-post.

In addition, the Construction FA forecast models can simulate the regional socioeconomic impacts of many other types of construction activities: for example, the construction of streets and highways, dams, water and sewage facilities; office buildings; housing for nonmilitary personnel; and the maintenance and repair of this construction. These types of construction activities do not have negative socioeconomic effects on the local communities, because

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What profile? (<cr> to see list):   12

Functional Area? (<cr> to see list):

Type: for:
  1   construction
  2   operations, maintenance and repair
  3   training
  4   mission change
  5   commercial/industrial type activities

  10   an introduction to inflation adjustment using price
          deflators
  11   construction (with price deflators)
  12   operations, maintenance and repair (with price deflators)
  13   training (with price deflators)
  14   mission change (with price deflators)
  15   commercial/industrial type activities (with price deflators)

  -       to return to profile selection
control-d to leave eifs

Figure 31. Forecast models profile.

they do not involve military personnel and their dependents moving into post housing.

Running the Construction FA models requires that the user provide the answers to several system-supplied questions: six answers for the Construction model without price deflators (FA #1), and ten answers for the Construction model with price deflators (FA #11), not including a project title. Only the questions not concerned with price deflators are discussed here. Price deflation and how to answer price deflator questions in the forecast models will be explained later (see p 73). Figure 32 (Construction FA) is an example run.

"Project name."

Any phrase that describes the action being modeled. It will be printed with the output and serve as a label. This is especially useful when several alternative scenarios are proposed and run for a single military action.

"If entering total expenditures, enter 1
          local expenditures, enter 2:"

If the user knows and will be entering construction expenditures going to local firms, then the value 2 (two) should be entered here. The system will then prompt the user for the dollar value of local construction expenditures. If total construction expenditures are to be entered, then the value 1 (one) should be entered here. The system will prompt the user, as a result, for the total dollar value of the construction project.

"Dollar volume of construction project:"

This question is asked if total construction project expenditures are to be entered (i.e., if the user responded to the last question with a value of 1). The total dollar value of expenditure for the construction project is expected. The system will compute the dollar value of local construction expenditures by default.

"Local expenditures for construction project:"

This question is asked if local construction project expenditures are known and are to be entered. This is the dollar value of construction expenditures going to local firms.

"Percent for labor:"

This is the labor requirement for the construction project. In other words, "What percentage of the construction expenditures will be used to hire labor?"

Sources: (1) Check with a local construction firm.

```
Forecast Models - which functional area?   (<cr> to see list)   1

CONSTRUCTION

Project name:   Construction FA Example
If entering total expenditures, enter  1
             local expenditures, enter  2  : 1
Dollar volume of construction project:   $10,000,000
Local expenditures of project:   5287797.50 (calculated)
Percent for labor:   35
Percent for materials:   40
Percent allowed for other:   25.00 (calculated)
Number of military families to move onto base from local region   23
Average income of affected military personnel:   $15,500


********** CONSTRUCTION IMPACT FORECAST FOR Construction FA Example   **********

Export employment multiplier:              2.1221
Export income multiplier:                  1.7604
Change in local
  Sales volume ............... Direct:  $      3,598,000
                            Induced:  $      4,038,000
                              Total:  $      7,636,000   (    0.451%)
  Employment ................. Direct:            296
                              Total:            408   (    0.277%)
  Income .................... Direct:  $      2,424,000
            Total (place of work):  $      2,860,000   (    0.303%)
        Total (place of residence):  $      2,907,000   (    0.254%)
  Consumption .............. Housing:  $        507,000
                        Non-housing:  $      1,831,000
  Investment ............... Housing:  $        236,000
                        Non-housing:  $        220,000
  Number of school children .........:            -22   (   -0.024%)
  Property values ...................:  $      6,773,000   (    0.451%)
  Government revenues .......... Taxes:  $        382,000
     State and federal aid to schools:  $        -14,000
  Government expenditures ... Schools:  $         -6,000
                              Other:  $        236,000
                                Net:  $        230,000
```

Figure 32.   Construction FA.

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(2) The latest <u>Census of Construction</u> (U.S. Bureau of the Census) has state-specific construction receipts and expenditures by type of construction activity, including expenditures for labor and materials.

(3) The latest <u>National Input-Output Study</u> (U.S. Bureau of Economic Analysis) also has construction receipts and expenditures for labor, materials, and other costs by type of construction activity, but the level of detail for construction expenditures for materials is much greater than for the <u>Census of Construction</u>.

"Percent for materials:"

This percentage of construction expenditures used for materials and supplies. The same data sources and comments concerning the percentage of construction expenditures for hiring labor also apply here. Remember that the sum of the percentage of construction expenditures for labor and materials should not be greater than 100 percent. The sum of these two percentages will usually be less than 100 percent, because construction firms normally have to pay Federal, State, and local taxes, and have a profit margin in addition to payments for labor, materials, and supplies.

"Number of military families moving onto base from local region:"

This is the number of military families moving on-post from the user-defined region into the newly constructed post housing. EIFS implicitly assumes that only one family member is in the military, so this number is the same as the number of the affected military personnel. Again, if this is a construction project not involving families moving into newly built post housing, this question should be ignored.

"Average income of affected military personnel:"

This is the average annual income of those military personnel who reside in the communities of the study area that surround the military installation and who will move into the housing being constructed. Ideally, this should be the income for only those personnel affected by the housing project, although this information is not always precisely known during the planning stage. Check with the Post Personnel Office for this information. Note that income, as used in the EIFS forecast models, is a broader concept than the value of the employees' wages and salaries. Consideration should be made, whenever appropriate, for income earned from second jobs, working dependents, unearned income (i.e., interest, dividends, and rents), etc. Remember, if this is a construction project for other than military housing, this question should be ignored (i.e., type RETURN for an answer), because this model assumes that military personnel are not involved in the construction activity.

Operations and Maintenance FA

The Operations and Maintenance FA forecast models calculate the socioeconomic impacts within a regional economy from a military facility's on-going

operation. This forecast model may be used to evaluate impacts from continued operation of an entire military installation or just a part of it (such as the Post Finance Office). As such, the military facility will affect the local economy through the locally produced goods and services that are purchased either by the facility personnel (both civilian and military) or by procurement for services and supplies.

As with other EIFS forecast models, the Operations and Maintenance FA forecast models may be used to analyze the regional economic and social consequences from operating nonmilitary facilities; e.g., from a local shoe factory or from the county police department. Note that the nonmilitary applications will not involve military personnel.

Running the Operations and Maintenance FA models requires that the user answer several system-supplied questions: eight answers for the Operations and Maintenance model without price deflators (FA #2), and 13 answers for the Operations and Maintenance model with price deflators (FA #12), not including a project name. Only the questions not concerned with price deflators are discussed here. Price deflation and how to answer price deflator questions in the forecast models are explained later. Figure 33 is an example of an Operations and Maintenance run.

"Project name:"

Any phrase that describes the action being modeled. It will be printed with the output and serve as a label. This is especially useful when several alternative scenarios are proposed and run for a single military action.

"If entering total expenditures, enter 1
          local expenditures, enter 2:"

If the user knows and will be entering annual expenditures for services and supplies going to local firms, then the value 2 (two) should be entered here. The system will then prompt the user for the dollar value of local expenditures for services and supplies. If total annual expenditures for services and supplies are to be entered, then the value of 1 (one) should be entered here. The system will then prompt the user for the total dollar value of annual expenditures for services and supplies.

"Annual expenditures for services and supplies:"

The question is asked if the total annual expenditures for services and supplies are to be entered (i.e., if the user responded to the last question with a value of 1). The dollar value of total annual expenditures for services and supplies is expected. The system will compute the dollar value of annual expenditures for services and supplies going to local firms by default.

Forecast Models - which functional area? (<cr> to see list) 2

OPERATIONS AND MAINTENANCE

Project name: Operations & Maintenance FA Example
(Enter decreases as negative numbers)
If entering total expenditures, enter 1
           local expenditures, enter 2 : 2
Annual expenditures for local services and supplies: $250,000
Civilian employment: 43
Average income of civilian personnel: $25,000
Military employment: 200
Average income of military personnel: $12,000
Percent of military living on base: 25

******* OPERATIONS AND MAINTENANCE FORECAST FOR Operations & Maintenance FA Example *******

Export employment multiplier:			2.1221	
Export income multiplier			1.7604	
Change in local				
Sales volume .... Direct:	$	2,249,000		
Induced:	$	2,523,000		
Total:	$	4,772,000	(	0.282%)
Employment .... Direct:		305		
Total:		374	(	0.254%)
Income .... Direct:	$	3,833,000		
Total (place of work):	$	4,106,000	(	0.434%)
Total (place of residence):	$	4,135,000	(	0.361%)
Consumption .... Housing:	$	744,000		
Non-housing:	$	2,605,000		
Investment .... Housing:	$	346,000		
Non-housing:	$	313,000		
Number of school children ....:		186	(	0.205%)
Property values ....:	$	4,233,000	(	0.282%)
Government revenues ...... Taxes:	$	239,000		
State and federal aid to schools:	$	114,000		
Government expenditures .. Schools:	$	48,000		
Other:	$	147,000		
Net:	$	196,000		

Figure 33. Operations and Maintenance FA.

"Annual expenditures for local services and supplies:"

This question is asked if the annual expenditures for services and supplies made locally are known and are to be entered. This is the dollar value of annual expenditures for services and supplies that are made from local firms.

"Civilian employment:"

The number of civilian personnel involved with the operations and maintenance of the function being analyzed. The Post Personnel Office may be a source of information for this question. A change in the level of operations and maintenance can be analyzed: enter a negative number for a decrease in the level of operations or a positive value for an expansion of activity.

"Average income of civilian personnel:"

Average annual income of civilian employees involved with the operations and maintenance or with the change in activity. Check with the Post Personnel Office for this information. Income, as used in EIFS, is a broader concept than just the wages and salaries of the affected employees. Consideration should be given, whenever appropriate, to unearned income (i.e., interest, dividends, and rents), etc. Average income figures are entered into EIFS as positive numbers.

"Military employment:"

The number of military personnel involved with the operations and maintenance of the function being analyzed. The comments for civilian personnel also apply here.

"Average income of military personnel:"

Average annual income of military personnel involved with the operations and maintenance or with the change in activity. The comments for civilian income also apply here.

"Percent of military personnel living on base:"

The percentage of the military personnel involved with the operations and maintenance of the function being analyzed that resides on the military installation. Check with the Post Personnel Office for this information.

Training FA

The Training FA forecast models compute the economic and social effects generated from military nonbasic training activities. Training activities, as modeled in EIFS, affect the local economy through the locally produced goods and services that are purchased either by the nonbasic trainees or by post procurements. Note that the socioeconomic effects are generated from the nonbasic trainees and not from the civilian or military instructors.

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Running the Training FA models requires that the user answer several system-supplied questions: six answers for the Training model without price deflators (FA #3), and ten answers for the Training model with price deflators (FA #13), not including a project name. Only the questions not concerned with price deflators are discussed here. Price deflators and how to answer the price deflator questions in the forecast models are explained on p 73. Figure 34 is an example of a Training FA run.

"Project name:"

> Any phrase that describes the action being modeled. It will be printed with the output and serve as a label. This is especially useful when several alternative scenarios are proposed and run for a single military action.

"If entering total expenditures, enter 1
            local expenditures, enter 2:"

> If the user knows and will be entering the change in annual expenditures for services and supplies made from local firms, then the value 2 (two) should be entered here. The system will then prompt the user for the change in local expenditures for services and supplies. If the change in annual expenditures for all services and supplies is to be entered, then the value 1 (one) should be entered here. The system will then prompt the user for the change in annual expenditures for all services and supplies.

"Change in expenditures for services and supplies:"

> This question is asked if the total change in expenditures for services and supplies is to be entered (i.e., if the user responded to the last question with a value of 1). The dollar value of the change in all expenditures for services and supplies is expected. The system will compute the dollar value of the change in local expenditures for services and supplies by default.

"Change in expenditures for local services and supplies:"

> This question is asked if the change in local expenditures for services and supplies is known and is to be entered. This is the dollar value of the change in expenditures for services and supplies made from local firms.

"Number of (nonbasic) trainees:"

> Number of nonbasic trainees involved in the training activity. For a change in the level of training activity, enter a positive value for an expansion of activity or a negative number for a decrease. The Post Personnel Office may be a source of information for this question.

"Average income of trainees:"

> Average annual income of nonbasic trainees. Check with the Post Personnel Office for this information. Income, as used in EIFS, is a broader

```
Forecast Models - which functional area?  (<cr> to see list): 3

TRAINING

Project name:  Training FA Example
(Enter decreases as negative numbers)
If entering total expenditures, enter   1
          local expenditures, enter   2   1
Change in expenditures for services and supplies:   $3,300,000
Change in expenditures for local services and supplies:   1744973.25 (calculated)
Number of (non-basic) trainees:   250
Average income of trainees:   $19,500
Percent of trainees living on base:   95


************* TRAINING IMPACT FORECAST FOR Training FA Example   *************

Export employment multiplier:                      2.1221
Export income multiplier:                          1.7604
Change in local
  Sales volume  . . . . . .    . . .    Direct:  $     3,422,000
                                      Induced:  $     3,840,000
                                        Total:  $     7,262,000      (    0.429%)
  Employment . . . . . . . . . . . . . . . Direct:           344
                                        Total:           450      (    0.305%)
  Income  . . . .   . . . . . . . . . . . Direct:  $     5,420,000
                      Total (place of work):  $     5,835,000      (    0.617%)
            Total (place of residence):  $     5,879,000      (    0.514%)
  Consumption . . . . . . . . .   . . . . Housing:  $     1,058,000
                                  Non-housing:  $     3,704,000
  Investment . . . . . . . . . . . . . . Housing:  $       492,000
                                  Non-housing:  $       444,000
  Number of school children . . . . . . . :            12      (    0.013%)
  Property values . . . . . . .   . . . . . :  $     6,441,000      (    0.429%)
  Government revenues . . . . . . . .  Taxes:  $       364,000
     State and federal aid to schools:  $         7,000
  Government expenditures . . . Schools:  $         3,000
                                        Other:  $       224,000
                                          Net:  $       227,000
```

Figure 34.   Training FA.

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concept than just the wages and salaries of the affected trainees. Consideration should be given, whenever appropriate, to income earned from second jobs, working dependents, unearned income (i.e., interest, dividends, and rents), etc. Average income figures are entered into EIFS as positive numbers.

"Percent of trainees living on base:"

The percentage of nonbasic trainees residing on the military installation. Check with the Post Personnel Office for this information.

Mission Change FA

The Mission Change FA forecast models estimate the socioeconomic impacts resulting from major changes in activity at a military installation (e.g., a closure of operations at the post or a change in the mission of the personnel at the installation, such as an armor division substituted for an infantry division. Each action would indicate a different mix of civilian and military personnel before and after the action in addition to changes in local procurements of services and supplies.

Like other EIFS forecast models, the Mission Change FA submodels can be used to analyze the regional socioeconomic effects of factory closures or relocations. Note that nonmilitary applications of this FA model will not involve military personnel.

Running the Mission Change FA models requires the user to respond to 19 system-supplied questions: seven for the Mission Change FA model without price deflation (FA #4), and twelve for the model with price deflators (FA #14), not including a project name. Price deflation and how to answer price deflator questions in the forecast models are discussed on p 73, so only the questions not concerned with price deflators are described here. Figure 35 illustrates a mission change FA.

"Project name:"

Any phrase that describes the action being modeled. It will be printed with the output and serve as a label. This is especially useful when several alternative scenarios are proposed and run for a single military action.

"If entering total expenditures, enter 1
                local expenditures, enter 2:"

If the user knows and will be entering the change in annual expenditures for services and supplies made from local firms, then the value 2 (two) should be entered here. The system will then prompt the user for the change in local expenditures for services and supplies. If the change in annual expenditures for all services and supplies is to be entered, the value 1 (one) should be entered here. The system will then prompt the user for the change in annual expenditures for all services and supplies.

```
Forecast Models - which functional area?  (<cr> to see list)  4

MISSION CHANGE

Project name   Mission Change FA Example
(Enter decreases as negative numbers)
If entering total expenditures, enter  1
           local expenditures, enter  2 : 1
Change in expenditures for services and supplies   $15,000,000
Change in expenditures for local services and supplies   7931696 50 (calculated)
Change in civilian employment   100
Average income of affected civilian personnel   $25,000
Change in military employment   300
Average income of affected military personnel   $19,000
Percent of military living on base   50


********* MISSION CHANGE IMPACT FORECAST FOR Mission Change FA Example  *********

Export employment multiplier                        2.1221
Export income multiplier                            1.7604
Change in local
  Sales volume ...... ....... Direct:   $    12,379,000
                            Induced:   $    13,891,000
                              Total:   $    26,271,000    (   1.553%)
  Employment ............... Direct:          741
                              Total:        1,123         (   0.762%)
  Income .................... Direct:   $    10,173,000
            Total (place of work):   $    11,673,000      (   1.235%)
         Total (place of residence):   $    11,834,000    (   1.034%)
  Consumption .............. Housing:   $     2,130,000
                        Non-housing:   $     7,455,000
  Investment ........... .... Housing:   $       990,000
                        Non-housing:   $       895,000
  Number of school children ........ :          241        (   0.266%)
  Property values ................. :   $    23,300,000    (   1.553%)
  Government revenues .. ...... Taxes:   $     1,316,000
     State and federal aid to schools:   $       148,000
  Government expenditures ... Schools:   $        62,000
                              Other:   $       812,000
                                Net:   $       874,000
```

Figure 35. Mission Change FA.

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"Change in expenditures for services and supplies:"

This question is asked if the total change in expenditures for services and supplies is to be entered (i.e., if the user responded to the last question with a value of 1). The dollar value of the change in all expenditures for services and supplies is expected. The system will compute the dollar value of the change in local expenditures for services and supplies by default.

"Change in expenditures for local services and supplies:"

This question is asked if the change in local expenditures for services and supplies is known and is to be entered. This is the dollar value of the change in expenditures for services and supplies made from local firms.

"Change in civilian employment:"

The net change in the number of civilian personnel resulting from the mission change action. Check with the Post Personnel Office for this information.

"Average income of affected civilians:"

Average annual income of the civilian employees involved with the mission change. Check with the Post Personnel Office for this information. Income, as used in EIFS, is a broader concept than just the wages and salaries of the affected employees. Consideration should be given, whenever appropriate, to income earned from second jobs, working dependents, unearned income (i.e., interest, dividends, and rents,) etc. Average income figures are entered into EIFS as positive numbers.

"Change in military employment:"

The net change in the number of military personnel because of the mission change action. Check with the Post Personnel Office for this information.

"Average income of affected military personnel:"

Average annual income of the military personnel involved with the mission change. The same comments for civilian income also apply here.

"Percent military personnel living on base:"

The percentage of military personnel involved with the mission change that resides on the military installation. Check the Post Personnel Office for this information.

Contractor/Industrial Type Activity (CITA) FA

CITA FA forecast models evaluate the economic and social impacts from contracting with local firms for services presently being performed by civilian or military personnel. The scenario modeled here includes the negative

socioeconomic effects resulting from the release of civilian and military per-
sonnel no longer needed, as well as the reduction of local procurements.
These negative impacts are balanced by the positive economic and social conse-
quences of contracting the services that were provided by the released civil-
ian and military personnel to local establishments. Although not originally
designed for the purpose, the CITA FA models can be used as more general forms
of the Mission Change FA models, in which there are contracting activities as
well as personnel and local procurement changes.

Running the CITA FA models requires the user to answer several system-
supplied questions: eight questions for the CITA model without price deflat-
ors (FA #5), and 14 questions for the CITA model with price deflators (FA
#15), not including the project name. Only the questions not concerned with
price deflation are discussed here. Price deflation and how to answer the
price deflator questions in the forecast models are explained on p 37. Figure
36 gives an example of a CITA FA run.

"Project name:"

Any phrase that describes the action being modeled. It will be printed
with the output and serve as a label. This is especially useful when
several alternative scenarios are proposed and run for a single military
action.

"If entering total expenditures, enter 1
        local expenditures, enter 2:"

If the user knows and will be entering the change in annual expenditures
for services and supplies made from local firms, then the value 2 (two)
should be entered here. The system will then prompt the user for the
change in local expenditures for services and supplies. If the change in
annual expenditures for all services and supplies is to be entered, then
the value 1 (one) should be entered here. The system will then prompt
the user for the change in annual expenditures for all services and sup-
plies.

"Change in expenditures for services and supplies:"

This question is asked if the total change in expenditures for services
and supplies is to be entered (i.e., if the user responded to the last
question with a value of 1). The dollar value of the change in all
expenditures for services and supplies is expected. The system will com-
pute the dollar value of the change in local expenditures for services
and supplies by default.

"Change in expenditures for local services and supplies:"

This question is asked if the change in local expenditures for services
and supplies is known and is to be entered. This is the dollar value of
the change in expenditures for services and supplies made from local
firms.

```
Forecast Models - which functional area?  (<cr> to see list): 5

CONTRACTOR/INDUSTRIAL TYPE ACTIVITIES (CITA)

Project name:  CITA FA Example
(Enter decreases as negative numbers)
If entering total expenditures, enter  1
           local expenditures, enter  2  : 2
Change in expenditures for local services and supplies:  -$150,000,000
Estimated value of contract:  $125,000,000
Change in civilian employment:  -350
Average income of affected civilian personnel:  $23,000
Change in military employment:  -454
Average income of affected military personnel:  $15,500
Percent of affected military living on base:  25


********* CONTRACTOR/INDUSTRIAL FORECAST FOR CITA FA Example  *********

Export employment multiplier:                      2.1221
Export income multiplier:                          1.7604
Change in local
  Sales volume ............... Direct:  $    -34,828,000
                              Induced:  $    -39,082,000
                                Total:  $    -73,910,000    ( -4.369%)
  Employment ................. Direct:       -1,762
                                Total:       -2,837         ( -1.925%)
  Income ..................... Direct:  $    -20,638,000
                Total (place of work):  $    -24,858,000    ( -2.629%)
           Total (place of residence):  $    -25,310,000    ( -2.212%)
  Consumption ............... Housing:  $     -4,556,000
                           Non-housing:  $    -15,945,000
  Investment ............... Housing:  $     -2,118,000
                           Non-housing:  $     -1,913,000
  Population .........................:            438
  Number of school children ........ :           -665       ( -0.734%)
  Property values .................. :  $    -65,552,000    ( -4.369%)
  Government revenues ......... Taxes:  $     -3,702,000
    State and federal aid to schools:  $       -408,000
  Government expenditures ... Schools:  $       -172,000
                                Other:  $     -2,283,000
                                  Net:  $     -2,456,000
```

Figure 36. Contractor/Industrial Type activities FA.

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"Estimated value of contract:"

> This question is asked concerning estimated dollar value of a contract to be performed by a local firm. It is assumed that the firm performing the service is located in the region defined for this analysis, otherwise a value 0 (zero) should be entered.

"Change in civilian employment:"

> The change in the number of civilian personnel at the military installation due to the CITA action. Check with the Post Personnel Office for this information. Be sure that personnel included in this figure are those to be released. Those personnel transferred from one function to another on the military installation should not be counted here. Enter a negative number for a decrease in personnel and a positive value for an increase in employment.

"Average income of affected civilian personnel:"

> Average annual income of those civilian employees who are affected by the CITA action. Check with the Post Personnel Office for this information. As used in EIFS, income is a broader concept than just the wages and salaries of the affected employees. Consideration should be given, whenever appropriate, to income earned from second jobs, working dependents, unearned income (i.e., interest, dividends, and rents), etc. Average income figures are entered into EIFS as positive numbers.

"Change in military employment:"

> The change in the number of military personnel at the military installation due to the CITA action. The comments for civilian employees also apply here.

"Average income of affected military personnel:"

> Average annual income of those military personnel affected by the CITA action. The comments for civilian income also apply here.

"Percent of military personnel living on-base:"

> The percentage of military personnel who are affected by the CITA action and reside on the military installation. Check with the Post Personnel Office for this information.

Changing Parametric Values

At times, it is important for an analyst to know the parametric values that are used in a model. For example, a detailed report summarizing the results of an economic and social impact analysis of proposed military actions should always include a technical appendix describing the model and its parametric values. Or, a user may wish to perform a sensitivity analysis of changes in local tax rates in response to a military action. Also, an analyst

may believe the value of a parametric value is different than the value calculated from the EIFS database.

In any case, the parametric values for the EIFS forecast models may be reviewed or changed through the "examine and/or change multiplier" profile (#11) (Figure 37). The parametric values are reviewed by typing a RETURN after each parametric value is displayed. To alter any parametric value, the user should type the desired value after the system-supplied value is displayed and then depress the RETURN key.

Price Deflation in EIFS

High rates of inflation since 1972 (the base year for EIFS) have made it increasingly necessary for EIFS users to be aware of the effects of inflationary changes on the economic and social impacts projected by the EIFS forecast models. A user can then take the appropriate actions to mitigate these effects. Appendix G discusses the effects of inflation on the economic and social impacts projected by EIFS and procedures for price deflation. FA #10 within profile #12 (Figure 38) is a brief, on-line discussion of price deflation in EIFS. Appendix H gives some commonly used composite price indexes.

There are three ways of dealing with inflation in the EIFS forecast models. First, one may ignore the problems associated with inflationary changes and use the EIFS forecast models without price deflation (see Figures 32 through 36). The major result of ignoring inflationary changes is that projected economic and social impacts will be larger than they would be if a user had entered monetary values consistent with 1972 prices.

Second, a user may deflate monetary values (e.g., annual income of affected civilian employees) by using the EIFS forecast models with price deflation (i.e., FAs 11 through 15). This is done in two steps: (1) convert input dollar values (expressed in the current dollars for some year) to standardized base year values before the impact computations are made; then (2) convert the dollar values in the output listing from the base year values to a desired reference year (possibly in the future). The user enters the price deflators needed to implement these procedures. Figures 39 through 43 are examples of each of the FAs with price deflators.

Third, a precise method of deflating prices in EIFS, although it may be laborious, is to deflate each monetary input item to base year prices (i.e., 1972), run the FA models without price deflators (FAs 1 through 5), and then inflate the output monetary values to a desired reference year. This method of price deflation has the advantage not only of accounting for the overall price effect of inflation on consumption, but also permits EIFS to model the effects of changing relative prices. That is, even though inflation affects the prices of all goods and services, the prices of some goods are affected more than others. This differential effect can be important in estimating the value of expenditures in "real" or "constant dollar" terms. These issues are explained more fully in Appendix G.

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```
What profile?  (<cr> to see list):  11
Calculating Multiplier.
Employment Multiplier:    2.1221
Income Multiplier:        1.7604


Which model variables do you want to see or change?  (<cr> to see a list ):

   Type:       To see or change values pertaining to:
    1            Multipliers
    2            Employment (BEA-1972)
    3            Income (BEA-1972)
    4            Business
    5            Housing
    6            Schools
    7            Government (Non-school)
    8            Personnel and families

    -           To return to profile selection
cntrl-d    To leave eifs


Which model variables do you want to see or change?  (<cr> to see a list ):  1

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

MULTIPLIERS
   Employment:  (2.1221499)
   Income:      (1.7603602)

Which model variables do you want to see or change?  (<cr> to see a list ):  2

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

EMPLOYMENT (BEA 1972)
   Total:              (147353)
   Wholesale trade:    (4155)
   Retail trade:       (16979)
   Construction:       (6996)
   Services:           (18688)
```

Figure 37. Examine and/or change multiplier profile.

```
Which model variables do you want to see or change?  (<cr> to see a list ): 3

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

INCOME (BEA 1972) (in thousands of dollars)
  Total by place of residence:  (1144348)
  Total by place of work:       (945401)
  Wholesale trade:              (33827)
  Retail trade.                 (105599)
  Construction:                 (65572)
  Services:                     (91300)
  Transfer payments:            (155225)

Which model variables do you want to see or change?  (<cr> to see a list ): 4

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

BUSINESS (1972)
  Total business volume:        (1.6918641e+09)
  Value added by manufacturing: (2.442e+08)

Which model variables do you want to see or change?  (<cr> to see a list ): 5

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

HOUSING
  Assessed value of locally assessed real property: (6 9689907e+08)
  Aggregate property taxes:                         (23998000)
  Aggregate dollar monthly contract rent:           (1568825)
  Occupied rental units, rented for cash:           (27431)
  Aggregate real estate market value:               (1.5005527e+09)
  Constant relating rental income to value:         (7.75)
```

Figure 37. (Cont'd)

Which model variables do you want to see or change? (<cr> to see a list): 6

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

SCHOOLS
  Population aged 0-19:   (141036)
  School enrollment aged 3-19:   (90500)
  Aggregate educational expenditures: (65506000)
  Education cost per-student: (872.48645)
  Proportion of cost covered by federal aid: (0.16168889)
  Proportion of cost covered by state aid: (0.54148763)

Which model variables do you want to see or change? (<cr> to see a list): 7

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

GOVERNMENT (NON-SCHOOL)
  Aggregate direct general expenditures: (1.17775e+08)
  State sales tax rate: (0.038213972)
  Proportion of state sales tax revenue kept locally: (0.51139778)

Which model variables do you want to see or change? (<cr> to see a list): 8

Existing values are given in parentheses.
Type <cr> to leave the existing value unchanged.

PERSONNEL
  Average number of children per family: (1.5)
  Average family size: (2.5)
  Average propensity for housing expenditures: (0.18000001)
  Average propensity for non-housing expenditures: (0.63)
  Average propensity to invest in housing: (0.059999999)
  Average propensity to invest in non-housing: (0.12)
  Proportion spent locally by permanent personnel
      Off-base: (0.33500001)
      On-base: (0.33500001)
  Proportion spent locally by transient personnel (trainees)
      Off-base: (0.33500001)
      On-base: (0.33500001)

Figure 37. (Cont'd)

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SIMPLE PRICE DEFLATION IN EIFS

Recent high rates of inflation have made it increasely important that some form of price-adjustment be made when running the EIFS forecast models. A simple technique has been implemented in the functional area models. First, the input dollar values (expressed in the current dollars of some year) are converted to equivalent dollar values of a standardized base year (currently 1972) before the impact computations are made. And second, the output dollar values are converted from the prices of the base year to the price levels existing for the desired reference year (possibly in the future).

The functional area models accomplish these conversions with price deflators supplied by the user as additional input.   There is one deflator input for each dollar-valued input, one for the base year, and one for the desired output reference year (i.e., the year in whose dollars the output is to be expressed).

The following is a list of several types of price deflators that are acceptable for use in EIFS:

	CPI-W	PPI	ENR bldg	ENR const	PCE	INV non-res	INV resid	GOV'T
1961	71.5	79.3	54.5	48.5	74.8	74.3	74.7	59.5
1962	72.3	79.6	55.7	49.9	75.5	74.4	73.9	61.3
1963	73.2	79.3	57.0	51.7	76.3	74.7	72.6	62.8
1964	74.1	79.5	58.7	53.7	77.2	75.3	72.6	64.4
1965	75.4	81.1	60.1	55.6	78.2	76.1	73.5	66.2
1966	77.6	83.8	62.4	58.4	80.1	77.9	75.3	69.2
1967	79.8	84.0	64.4	61.3	82.0	80.3	77.5	72.4
1968	83.2	86.1	69.2	66.1	85.0	83.3	81.0	76.4
1969	87.6	89.4	75.8	72.8	88.7	87.0	87.8	81.3
1970	92.8	92.7	80.2	79.1	92.7	91.6	90.6	87.9
1971	96.8	95.7	90.5	90.0	96.6	96.3	94.9	94.0
1972	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1973	106.2	113.1	108.5	108.3	106.1	104.0	109.2	106.9
1974	117.9	134.4	114.9	115.3	117.1	116.5	120.5	117.9
1975	128.7	146.9	124.5	126.2	126.3	132.9	131.2	129.2
1976	136.1	153.7	135.9	137.1	133.0	139.9	140.8	137.3
1977	144.9	163.1	147.3	147.2	141.2	148.5	158.0	147.0
1978	155.9	175.7	159.6	158.5	151.6	160.9	178.4	158.4
1979	173.7	197.8	173.5	171.5	166.3	177.2	200.8	173.2
1980	197.1	225.7	185.4	184.9	184.8	195.5	219.5	193.8
1981	217.3	246.3	199.9	201.8	201.7	213.7	235.0	212.2
1982	230.3	251.3	213.0	218.5	213.2	225.7	242.4	226.4
1983	237.4	254.5	227.4	232.3	221.9	230.3	243.4	236.9

Source: Selected issues of the SURVEY OF CURRENT BUSINESS published by the U.S. Department of Commerce (note: all indexes have been converted to a base year of 1972).

CPI-W   is the Consumer Price Index (urban wage earners and clerical workers) for all itmes.

PPI   is the Producer Price Index for all commodities.

ENR   are the Engineering News-Record construction cost indexes for building and construction.

PCE   is the fixed-weighted price index for personal consumption expenditures.

INV   are the fixed-weighted price indexes for non-residential and residential investment expenditures.

GOV'T   is the fixed-weighted price index for all government expenditues.

Figure 38.   Simple price deflation in EIFS.

Forecast Models - which functional area? (<cr> to see list): 11

CONSTRUCTION

Project name: Construction FA with Inflation Adjustment
If entering total expenditures, enter 1
            local expenditures, enter 2 : 1
Dollar volume of construction project: $4,300,000
Local expenditures of project: 2273753.00 (calculated)
    price deflator: 232.3
Percent for labor: 12
Percent for materials: 35
Percent allowed for other: 53.00 (calculated)
Number of military families to move onto base from local region: 150
Average income of affected military personnel: $20,000
    price deflator: 237.4
Price deflator for baseline year (1972): 100.0
Price deflator for output: 237.4

********** CONSTRUCTION IMPACT FORECAST FOR Construction FA with Inflation Adjustment **********

Export employment multiplier:		2.1221	
Export income multiplier:		1.7604	
Change in local			
Sales volume .... Direct:	$	795,000	
Induced:	$	892,000	(0.042%)
Total:	$	1,687,000	(0.022%)
Employment .... Direct:		22	
Total:		32	
Income .... Direct:	$	406,000	
Total (place of work):	$	502,000	(0.022%)
Total (place of residence):	$	512,000	(0.019%)
Consumption .... Housing:	$	-152,000	
Non-housing:	$	323,000	
Investment .... Housing:	$	-71,000	
Non-housing:	$	39,000	
Number of school children		-144	(-0.160%)
Property values	$	1,496,000	(0.042%)
Government revenues .... Taxes:	$	84,000	
State and federal aid to schools	$	-210,000	
Government expenditures ... Schools	$	-89,000	
Other	$	52,000	
Net	$	-37,000	

Figure 39. Construction FA with simple price deflation.

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Forecast Models - which functional area? (<cr> to see list): 12

OPERATIONS AND MAINTENANCE

Project name: Operations & Maintenance FA with Inflation Adjustment
(Enter decreases as negative numbers)
If entering total expenditures, enter 1
         local expenditures, enter 2 : 1
Annual expenditures for services and supplies: -$2,500,000
Annual expenditures for local services and supplies: -1321949.38 (calculated)
         price deflator: 254.5
Civilian employment: -234
Average income of civilian personnel: $23,000
         price deflator: 237.4
Military employment: -12
Average income of military personnel: $19,000
         price deflator: 237.4
Percent of military living on base: 45
Price deflator for baseline year (1972): 100.0
Price deflator for output: 237.4

****** OPERATIONS AND MAINTENANCE FORECAST FOR Operations & Maintenance FA with Inflation Adjustment *******

Export employment multiplier:		2.1221		
Export income multiplier:		1.7604		
Change in local				
Sales volume	Direct:	$	-5,691,000	
	Induced:	$	-6,387,000	
	Total:	$	-12,078,000	(-0.301%)
Employment	Direct:		-312	
	Total:		-386	(-0.262%)
Income	Direct:	$	-6,517,000	
	Total (place of work):	$	-7,207,000	(-0.321%)
	Total (place of residence):	$	-7,281,000	(-0.268%)
Consumption	Housing:	$	-1,311,000	
	Non-housing:	$	-4,587,000	
Investment	Housing:	$	-609,000	
	Non-housing:	$	-550,000	
Number of school children			-232	(-0.256%)
Property values		$	-10,712,000	(-0.301%)
Government revenues	Taxes:	$	-605,000	
State and federal aid to schools		$	-337,000	
Government expenditures	Schools:	$	-142,000	
	Other:	$	-373,000	
	Net:	$	-516,000	

Figure 40. Operations and Maintenance FA with simple price deflation.

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Forecast Models - which functional area? (<cr> to see list): 13

TRAINING

Project name   Training FA with Inflation Adjustment
(Enter decreases as negative numbers)
If entering total expenditures, enter 1
           local expenditures, enter 2 : 1

Change in expenditures for services and supplies: $12,000,000
Change in expenditures for local services and supplies: 6345357.00 (calculated)
           price deflator: 254.5
Number of (non-basic) trainees: 133
Average income of trainees: $12,000
           price deflator: 237.4
Percent of trainees living on base: 80
Price deflator for baseline year (1972): 100.0
Price deflator for output: 237.4

*********** TRAINING IMPACT FORECAST FOR Training FA with Inflation Adjustment ************

Export employment multiplier:		2.1221	
Export income multiplier:		1.7604	
Change in local			
Sales volume	Direct:	$ 6,511,000	
	Induced:	$ 7,306,000	
	Total:	$ 13,818,000	(0.344%)
Employment	Direct:	208	
	Total:	293	(0.199%)
Income	Direct:	$ 2,634,000	
	Total (place of work):	$ 3,423,000	(0.153%)
	Total (place of residence):	$ 3,507,000	(0.129%)
Consumption	Housing:	$ 631,000	
	Non-housing:	$ 2,210,000	
Investment	Housing:	$ 294,000	
	Non-housing:	$ 265,000	
Number of school children		26	(0.028%)
Property values		$ 12,255,000	(0.344%)
Government revenues	Taxes	$ 692,000	
State and federal aid to schools		$ 37,000	
Government expenditures	Schools	$ 16,000	
	Other:	$ 427,000	
	Net:	$ 443,000	

Figure 41. Training FA with simple price deflation.

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Forecast Models - which functional area? (<cr> to see list): 14

MISSION CHANGE

Project name: Mission Change FA with Inflation Adjustment
(Enter decreases as negative numbers)
If entering total expenditures, enter 1
   local expenditures, enter 2 : 2

Change in expenditures for local services and supplies: -$10,000,000
   price deflator: 254.5
Change in civilian employment: -110
Average income of affected civilian personnel: $12,000
   price deflator: 237.4
Change in military employment: -50
Average income of affected military personnel: $18,000
   price deflator: 237.4
Percent of military living on base: 33
Price deflator for baseline year (1972): 100.0
Price deflator for output: 237.4

******** MISSION CHANGE IMPACT FORECAST FOR Mission Change FA with Inflation Adjustment *********

Export employment multiplier: 2.1221
Export income multiplier: 1.7604
Change in local
Sales volume .... Direct: $ -10,807,000
                                  Induced: $ -12,127,000
                                    Total: $ -22,935,000   (-0.571%)
Employment .... Direct: -285   (-0.289%)
                                    Total: -426
Income .... Direct: $ -3,942,000   (-0.234%)
                   Total (place of work): $ -5,252,000   (-0.198%)
              Total (place of residence): $ -5,392,000
Consumption .... Housing: $ -971,000
                              Non-housing: $ -3,397,000
Investment .... Housing: $ -451,000
                              Non-housing: $ -408,000
Number of school children ....   -138   (-0.153%)
Property values .... $ -20,341,000   (-0.571%)
Government revenues .... Taxes: $ -1,149,000
     State and federal aid to schools: $ -201,000
Government expenditures ... Schools: $ -85,000
                              Other: $ -709,000
                                Net: $ -793,000

Figure 42. Mission change FA with simple price deflation.

Forecast Models - which functional area? (<cr> to see list): 15

CONTRACTOR/INDUSTRIAL TYPE ACTIVITIES (CITA)

Project name: CITA FA with Inflation Adjustment
(Enter decreases as negative numbers)
If entering total expenditures, enter 1
    local expenditures, enter 2 : 1

Change in expenditures for services and supplies: -$1,500,000
Change in expenditures for local services and supplies: -793169.63 (calculated)
    price deflator: 254.5
Estimated value of contract: $2,000,000
    price deflator: 254.5
Change in civilian employment: -125
Average income of affected civilian personnel: $25,000
    price deflator: 237.4
Change in military employment: -80
Average income of affected military personnel: $21,000
    price deflator: 237.4
Percent of affected military living on base: 25
Price deflator for baseline year (1972): 100.0
Price deflator for output: 237.4

********* CONTRACTOR/INDUSTRIAL FORECAST FOR CITA FA with Inflation Adjustment *********

Export employment multiplier: 2.1221
Export income multiplier: 1.7604
Change in local
Sales volume .... Direct: $ -2,195,000
                            Induced: $ -2,463,000
                              Total: $ -4,658,000 (-0.116%)
Employment .... Direct: -230
                              Total: -259   (-0.176%)
Income .... Direct: $ -5,155,000
            Total (place of work): $ -5,421,000 (-0.242%)
       Total (place of residence): $ -5,449,000 (-0.201%)
Consumption .... Housing: $ -981,000
                        Non-housing: $ -3,433,000
Investment .... Housing: $ -456,000
                        Non-housing: $ -412,000
Population ....   -103
Number of school children ....   -178
Property values .... $ -4,132,000 (-0.197%)
Government revenues .... Taxes: $ -233,000   (-0.116%)
   State and federal aid to schools: $ -259,000
Government expenditures ... Schools: $ -109,000
                              Other: $ -144,000
                                Net: $ -253,000

Figure 43. Contractor/Industrial Type Activities FA with simple price deflation.

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6 SUMMARY

This report has provided a functional manual for using EIFS that will be useful to DOD planners, analysts, and engineers. It identifies and clarifies the various profiles within EIFS which represent both the system's initial profiles and those developed to meet specific needs of its users. These profiles also represent an expansion of the system's analytical capabilities.

This manual is designed to be somewhat independent of the internal analytical structure of EIFS; the information here should be used only as introductory guidance to EIFS to establish an historical perspective for its use. For information about more specific issues, the user should refer to separate technical documents or seek on-line assistance.

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APPENDIX A: FORECAST MODEL EQUATIONS

CONSTRUCTION

$$\Delta EX1 = \Delta EXp * (1 - 1/Me)$$

$$\Delta EX1l = \%cl * \Delta EX1$$

$$\Delta EX1m = \%cm * \Delta EX1$$

$$\Delta BVd = \Delta EX1m + (bh + bo) * \Delta EX1l - F * [12 * r + (\%off - \%on) * Ym]$$

$$\Delta BVt = \Delta BVd * Ms$$

$$\Delta BVi = \Delta BVt - \Delta BVd$$

$$\Delta EMd = (\Delta BVd / TSspw) + (\Delta EXLL / Cypw)$$

$$\Delta EMt = (\Delta BVd / TSspw) * Me + (\Delta EX1l / Cypw)$$

$$\Delta Yd = (\Delta BVd / TSspw) * TSypw + \Delta EX1l$$

$$\Delta Ytw = (\Delta BVd / TSspw) * TSypw * My + \Delta EX1l$$

$$\Delta Ytr = (\Delta BVd / TSspw) * TSypw * My * radj + \Delta EX1l$$

$$\Delta Ch = (bh * \Delta Ytr) - (12 * r * F)$$

$$\Delta Co = bo * \Delta Ytr$$

$$\Delta Ih = ih * rpv * \Delta Ch$$

$$\Delta Io = io * \Delta Co$$

$$\Delta S = \%c * c * F$$

$$\Delta PV = (av / amv) * (\Delta BVt / tbv72)$$

$$\Delta GRe = (\%af + \%as) * sc * \Delta S$$

$$\Delta GRo = (tp * \Delta PV) + (\%st * ts * \Delta BVt)$$

$$\Delta GRt = \Delta GRe + \Delta GRo$$

$$\Delta GEe = [1 - (\%af + \%as)] * sc * \Delta S$$

$$\Delta GEo = gb * (BVt / tbv72)$$

$$\Delta GEt = \Delta GEe + \Delta GEo$$

$$\Delta GEn = \Delta GEt - \Delta GRt$$

MISSION CHANGE

$$\Delta EX1 = \Delta EXp * (1 - 1/Me)$$

$$\Delta BVd = \Delta EX1 + (bh + bo) * (Pc * Yc) + [(\%on * \%m) + (\%off + bh) * (1 - \%m)] * (Pm * Ym)$$

$$\Delta BVt = \Delta BVd * Ms$$

$$\Delta BVi = \Delta BVt - \Delta BVd$$

$$\Delta EMd = (\Delta BVd / TSspw) + Pc + Pm$$

$$\Delta EMt = (\Delta BVd / TSspw) * Me + Pc + Pm$$

$$\Delta Yd = (\Delta BVd / TSspw) * TSypw + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ytw = (\Delta BVd / TSspw) * TSypw * My + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ytr = (\Delta BVd / TSspw) * Tsypw * My * radj + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ch = bh * \Delta Ytr$$

$$\Delta Co = bo * \Delta Ytr$$

$$\Delta Ih = ih * rpv * \Delta Ch$$

$$\Delta Io = io * \Delta Co$$

$$\Delta S = \%c * c * [(1 - \%m) * Pm + Pc]$$

$$\Delta PV = (av / amv) * (\Delta BVt / tbv72)$$

$$\Delta GRe = (\%af + \%as) * sc * \Delta S$$

$$\Delta GRo = (tp * \Delta PV) + (\%st * ts * \Delta BVt)$$

$$\Delta GRt = \Delta GRe + \Delta GRo$$

$$\Delta GEe = [1 - (\%af + \%as)] * sc * \Delta S$$

$$\Delta GEo = gb * (\Delta BVt / tbv72)$$

$$\Delta GEt = \Delta GEe + \Delta GEo$$

$$\Delta GEn = \Delta GEt - \Delta GRt$$

OPERATIONS AND MAINTENANCE

$$\Delta EX1 = \Delta EXp * (1 - 1/Me)$$

$$\Delta BVd = \Delta EX1 + (bh + bo) * (Pc * Yc) + [(\%on * \%m) + (\%off + bh) * (1 - \%m)] * (Pm * Ym)$$

$$\Delta BVt = \Delta BVd * Ms$$

$$\Delta BVi = \Delta BVt - \Delta BVd$$

$$\Delta EMd = (\Delta BVd / TSspw) + Pc + Pm$$

$$\Delta EMt = (\Delta BVd / TSspw) * Me + Pc + Pm$$

$$\Delta Yd = (\Delta BVd / TSspw) * TSypw + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ytw = (\Delta BVd / TSspw) * TSypw * My + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ytr = (\Delta BVD / TSspw) * TSypw * My * radj + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ch = bh * \Delta Ytr$$

$$\Delta Co = bo * \Delta Ytr$$

$$\Delta Ih = ih * rpv * \Delta Ch$$

$$\Delta Io = io * \Delta Co$$

$$\Delta S = \%c * c * [(1 - \%m) * Pm + Pc]$$

$$\Delta PV = (av / amv) * (\Delta BVt / tbv72)$$

$$\Delta GRe = (\%af + \%as) * sc * \Delta S$$

$$\Delta GRo = (tp * \Delta PV) + (\%st * ts * \Delta BVt)$$

$$\Delta GRt = \Delta GRe + \Delta GRo$$

$$\Delta GEe = [1 - (\%af + \%as)] * sc * \Delta S$$

$$\Delta GEo = gb * (\Delta BVt / tbv72)$$

$$\Delta GEt = \Delta GEe + \Delta GEo$$

$$\Delta GEn = \Delta GEt - \Delta GRt$$

TRAINING

$$\Delta EX1 = \Delta EXp * (1 - 1/Me)$$

$$\Delta BVd = \Delta EX1 + [(Zon * Zm) + (Zoff + bh) * (1 - Zm)] * (Pm * Ym)$$

$$\Delta BVt = \Delta BVd * Ms$$

$$\Delta BVi = \Delta BVt = \Delta BVd$$

$$\Delta EMd = (\Delta BVd / TSspw) + Pm$$

$$\Delta EMt = (\Delta BVd / TSspw) * Me + Pm$$

$$\Delta Yd = (\Delta EMd / TSspw) * TSypw + (Pm * Ym)$$

$$\Delta Ytw = (\Delta Yd / TSspw) * TSypw * My + (Pm * Ym)$$

$$\Delta Ytr = (\Delta Yd / TSspw) * TSspw * My * radj + (Pm * Ym)$$

$$\Delta Ch = bh * \Delta Ytr$$

$$\Delta Co = bo * \Delta Ytr$$

$$\Delta Ih = ih * rpv * \Delta Ch$$

$$\Delta Io = io * \Delta Co$$

$$\Delta S = Zc * c * [(1 - Zm) * Pm]$$

$$\Delta PV = (av / amv) * (\Delta BVt / tbv72)$$

$$\Delta GRe = (Zaf + Zas) * sc * \Delta S$$

$$\Delta GRo = (tp * \Delta PV) + (Zst * ts * \Delta BVt)$$

$$\Delta GRt = \Delta GRe + \Delta GRo$$

$$\Delta GEe = [1 - (Zaf + Zas)] * sc * \Delta S$$

$$\Delta GEo = gb * (\Delta BVt / tbv72)$$

$$\Delta GEt = \Delta GEe + \Delta GEo$$

$$\Delta GEn = \Delta GEt - \Delta GRt$$

CONTRACTOR/INDUSTRIAL-TYPE ACTIVITIES

$$\Delta EX1 = \Delta EXp * (1 - 1/Me)$$

$$\Delta BVd = \Delta EX1 + \Delta EXc + (bh + bo) * (Pc * Yc)$$
$$+ [(\%on * \%m) + (\%off + bh) * (1 - \%m)] * (Pm * Ym)$$

$$\Delta BVt = \Delta BVd * Ms$$

$$\Delta BVi = \Delta BVt - \Delta BVd$$

$$\Delta EMd = (\Delta BVd / TSspw) + Pc + Pm$$

$$\Delta EMt = (\Delta BVd / TSspw) * Me + Pc + Pm$$

$$\Delta Yd = (\Delta BVd / TSspw) * TSypw + (Pc * Yc) + (Pm * Ym)$$

$$\Delta Ytw = (\Delta BVd / TSspw) * TSypw * My + (Pc * Yc)$$
$$+ (Pm * Ym)$$

$$\Delta Ytr = (\Delta BVd / TSspw) * TSypw * My * radj + (Pc * Yc)$$
$$+ (Pm * Ym)$$

$$\Delta Ch = bh * \Delta Ytr$$

$$\Delta Co = bo * \Delta Ytr$$

$$\Delta Ih = ih * rpv * \Delta Ch$$

$$\Delta Io = io * \Delta Co$$

$$\Delta S = \%c * c * [(1 - \%m) * Pm + Pc]$$

$$\Delta PV = (av / amv) * (\Delta BVt / tbv72)$$

$$\Delta GRe = (\%af + \%as) * sc * \Delta S$$

$$\Delta GRo = (tp * \Delta PV) + (\%st * ts * \Delta BVt)$$

$$\Delta GRt = \Delta GRe + \Delta GRo$$

$$\Delta GEe = [1 - (\%af + \%as)] * sc * \Delta S$$

$$\Delta GEo = gb * (\Delta BVt / tbv72)$$

$$\Delta GEt = \Delta GEe + \Delta GEo$$

$$\Delta GEn = \Delta GEt - \Delta GRt$$

USER-SUPPLIED VARIABLES

ΔEXc   Dollar value of the contracted service for the Contractor/ Industrial Type Activities FA forecast model: this figure is assumed to represent a contract with a local business establishment.

ΔEX1   Dollar value of post expenditures for local services and supplies that are related to the military action: this figure is either entered by the user directly (if it is known) or computed by default. Items supplies by GSA or DLA should not be included, unless they can be traced to local manufacturers. The Post Comptroller may be a source of information to determine the dollar value and place of origin of post expenditures. The local area for post expenditures should be the same as the study region defined by the user (i.e., upon entering EIFS). A negative value is entered for a decrease in military activity and a positive value is used if there is an expansion. Note, that for the Construction FA forecast model this represents local construction expenditures, otherwise these are local expenditures for services and supplies.

ΔEXp   Dollar value of post expenditures for all services and supplies that are related to the military action: this figure is entered by the user when the local purchases are not known. The system will then compute the local purchases by default. Items supplies by GSA or DLA are not normally included. The Post Comptroller may be a source of information for determining this value. A negative value is entered for a decrease in military activity and a positive value is used if there is an expansion. Note, that for the Construction FA forecast model this represents construction expenditures, otherwise these are expenditures for services and supplies.

F   Number of military families moving on-post from the user-defined region of influence into newly constructed post housing. It is assumed that there is only one military employee per family.

Pc   Number of civilian personnel affected by the military action: these are separated or newly added civilian employees. Personnel transferred from one position to another on-post or within the same geographic area should not be included. Enter a positive number for an increase or a negative number for a decrease.

Pm   Number of military personnel affected by the military action: these are the transferred (out of the region) or newly added military personnel. Personnel shifted from one position to another on-post or transferred within the same geographic area should not be included. Enter a positive number for an expansion or a negative for a decrease. For the Training FA forecast model, these are non-basic trainee-type military personnel.

Yc   Average annual income of civilian personnel affected by the
        military action; however, this may not always be known accurately
        during planning stages. Check with the Post Personnel Office for
        this information. Income, in EIFS, is a broader concept than just
        the wages and salaries of employees. Consideration should also be
        given, if possible, to income earned from second jobs, working
        dependents, unearned income (i.e., interest, dividends, and
        rents), etc. Average income figures are entered into EIFS as
        positive numbers.

Ym   Average annual income of all military personnel affected by the
        military action. The same comments about Yc also apply here.

%cl   Percentage of construction expenditures used to hire labor: this
        is the total labor requirements for the construction project.

        SOURCES: (1) Check with a local construction firm; (2) The latest
        CENSUS OF CONSTRUCTION (US Bureau of the Census) has state-
        specific receipts and expenditures by type of construction
        activity, including expenditures for labor and materials; (3) The
        latest NATIONAL INPUT-OUTPUT STUDY (US Bureau of Economic
        Analysis) also has construction receipts and expenditures by type
        of construction activity; however, the level of detail for
        construction material expenditures is much greater than in the
        CENSUS OF CONSTRUCTION.

%cm   Percentage of construction expenditures used to purchase materials
        and supplies. The same comments and data sources as for %cl also
        apply here.

%m   Percentage of affected military personnel residing on-post. Check
        with the Post Personnel Office for this information.

SYSTEM-SUPPLIED VARIABLES

amv   Assessed to market value ratio for local property.

        SOURCE: 1972 CENSUS OF GOVERNMENTS (U.S. Bureau of the Census).

av   Total assessed value of local real property.

        SOURCE: 1972 CENSUS OF GOVERNMENTS (U.S. Bureau of the Census).

bh   The average propensity to consume local housing out of personal income. A breakdown of consumer expenditures revealed little variation for different levels of income except at very low levels. A national constant value of .16 is used in EIFS. This estimate corresponds to the statistics published in the Strategic Air Command Manual 173-661, SALARY IMPACT REPORT (B3500) (March 1975).

        SOURCES: (1) THE 1967 MARKET PROFILES OF CONSUMER PRODUCTS (National Industries Conference Board); (2) THE 1976 FEDERAL EMPLOYEES ALMANAC (Federal Employees News Digest); (3) THE 1974 MILITARY MARKET FACTS BOOK (Army Times Magazine); and (4) 1975 SELECTED MANPOWER STATISTICS (U.S. Department of Defense).

bo   The average propensity to consume local nonhousing type goods and services out of personal income. A national average value of .63 is currently being used in EIFS. This statistic is derived in the same manner and from the same data sources as the average propensity to consume local housing (bh).

c   The average number of children per military family. A national average value of 1.5 children per military family is used in EIFS.

        SOURCE: THE 1974 MILITARY MARKET FACT BOOK (Army Times Magazine).

gb   The local government operating budget, excluding education. Educational expenditures are subtracted from local government direct general expenditures.

        SOURCE: 1972 CENSUS OF GOVERNMENTS (U.S. Bureau of the Census).

ih   The average propensity to invest in local housing out of rental income. A national average value of .06 is currently used in EIFS.

        SOURCES: (1) THE 1967 ANNUAL STATISTICAL SUMMARY (U.S. Department of Housing and Urban Development) and (2) THE HUD STATISTICAL YEARBOOK (U.S. Department of Housing and Urban Development).

io   The average propensity to invest in local nonhousing type business activity. A national average value of .12 is currently used in EIFS.

SOURCES: THE 1967 ANNUAL STATISTICAL SUMMARY (U.S. Department of Housing and Urban Development) and (2) STATISTICS OF INCOME-BUSINESS INCOME (U.S. Internal Revenue Service).

r   The average monthly rent. It is computed by dividing total regional rental receipts by the number of renters in the area.

        SOURCE: 1970 CENSUS OF POPULATION (U.S. Bureau of the Census).

radj   A residence adjustment to convert income by place of work to income by place of residence. At present, only a crude adjustment for local commuting patterns is made. It is the ratio of total personal income by place of residence (less transfer payments) to total earnings by place of work for 1972.

        SOURCE: BEA REGIONAL ECONOMIC INFORMATION SYSTEM (U.S. Bureau of Economic Analysis).

rpv   A constant relating rental income to the value of rental property. A national average value of 7.75 is used in EIFS.

        SOURCE: 1972 CENSUS OF GOVERNMENTS (U.S. Bureau of the Census).

sc   The cost of education per child. It is the expenditures per pupil in average daily attendance in public elementary and secondary day schools, by state, for the 1972-73 school year.

        SOURCE: OFFICE OF EDUCATION (U.S. Department of Health, Education, and Welfare).

tbv72   Total local business volume for 1972. It is calculated by summing total local retail and wholesale trade sales, total local services receipts, and value added for local manufacturers.

        SOURCE: 1972 CENSUS OF BUSINESS (U.S. Bureau of the Census).

tp   The local property tax rate. It is derived by dividing regional property tax revenues by the total assessed value of local real property.

        SOURCE: 1972 CENSUS OF GOVERNMENTS (U.S. Bureau of the Census).

ts   The state sales tax rate as of 1 July 1974.

        SOURCE: ANALYSIS STAFF (U.S. Treasury Department).

Cypw   Construction sector earnings per worker. This is the local ratio of construction sector earnings to construction sector employment for 1972.

        SOURCE: BEA REGIONAL ECONOMIC INFORMATION SYSTEM (U.S. Bureau of Economic Analysis).

Me   The export-employment multiplier based on the "location quotient" methodology.

SOURCE: 1972 COUNTY BUSINESS PATTERNS (U.S. Bureau of the Census).

Ms   The export-sales multiplier based on the "location quotient" methodology. At present, the export-employment multiplier (Me) is used as a "proxy" until research can be carried out.

My   The export-income multiplier based on the "location quotient" methodology.

SOURCES: (1) 1972 COUNTY BUSINESS PATTERNS (U.S. Bureau of the Census), and (2) BEA REGIONAL ECONOMIC INFORMATION SYSTEM (U.S. Bureau of Economic Analysis).

TSspw   Trade and service sector sales per worker ratio. This is the local ratio of the value of sales to the number of employees for retail and wholesale trade and selected service sectors in 1972.

SOURCES: (1) 1972 CENSUS OF BUSINESS (U.S. Bureau of the Census) and (2) BEA REGIONAL ECONOMIC INFORMATION SYSTEM (U.S. Bureau of Economic Analysis).

TSypw   Trade and service sector earnings per worker ratio. This is the local ratio of earnings to employment for retail and wholesale trade and selected services sector in 1972.

SOURCE: BEA REGIONAL ECONOMIC INFORMATION SYSTEM (U.S. Bureau of Economic Analysis).

%af   Percentage of local educational expenditures financed by Federal aid.

SOURCE: STATE AND LOCAL EXPENDITURES FOR LOCAL SCHOOLS BY GOVERNMENT SOURCE OF FINANCING BY STATE, 1969-70 (U.S. Bureau of the Census).

%as   Percentage of local education expenditures financed by State aid.

SOURCE: STATE AND LOCAL EXPENDITURES FOR LOCAL SCHOOLS BY GOVERNMENT SOURCE OF FINANCING BY STATE, 1969-70 (U.S. Bureau of the Census).

%c   Percentage of children attending local schools. It is the ratio of school children to the total number of persons under 18 years of age.

SOURCE: 1970 CENSUS OF POPULATION (U.S. Bureau of the Census).

%off   Percentage of income spent locally by military personnel residing off-post. A national average value of .335 is currently used in EIFS.

%on   Percentage of income spent locally by military personnel residing on-post. The same value is used here as is used for %off, at least until better data become available.

%st   Percentage of state sales tax retained by local governments.

      SOURCE: STATE TAX GUIDE (Commerce Clearinghouse).
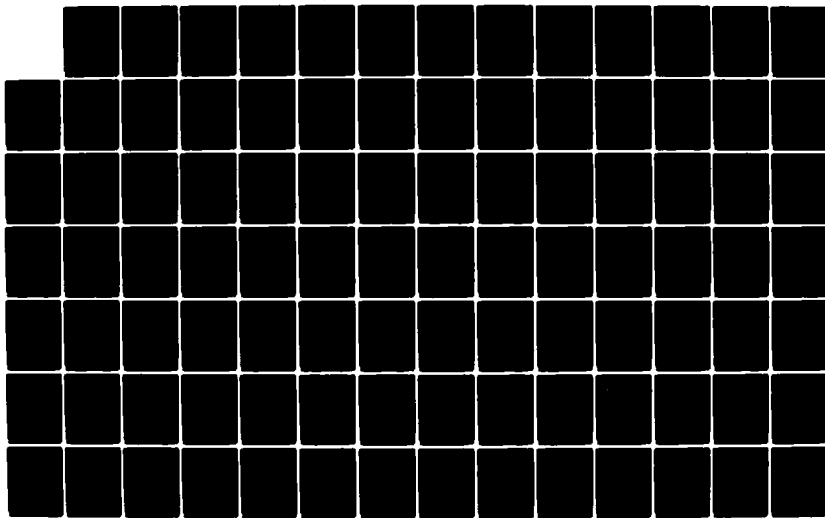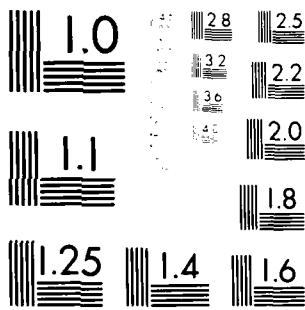
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NATIONAL BUREAU OF STANDARDS 1963 A

CALCULATED VARIABLES

ΔBVd   Direct change in housing activity attributable to the military action. This represents the change in sales volume at local retail and wholesale trade merchants and at local business, personal, and professional service establishments where the civilian and military personnel spend their wages and salaries and where local procurements are made.

ΔBVi   Induced changed in local business volume due to the military action. Business volume is defined as local business activity or sales and is the sum of total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing.

ΔBVt   Total change in local business volume due to the military action.

ΔCh   Change in local consumer expenditures for housing. No distinction is made between owner-occupied and renter-occupied housing.

ΔCo   Change in local consumer expenditures, excluding local expenditures for housing.

ΔEMd   Direct change in local employment due to the military action. These are assumed to be the employees of the local retail, wholesale, and service establishments that are initially affected by the military action plus, in addition, the affected military and civilian personnel.

ΔEMt   Total change in local employment due to the military action. This not only includes the direct and secondary changes in local employment, but also includes those personnel who are initially affected by the military action.

ΔEX1   Dollar value of post expenditures for local services and supplies that are related to the military action. When computed by default, this figure is estimated by multiplying the total expenditures for services and supplies (i.e., Δ EXp) by a factor representing the local availability of services and supplies. At present, the local availability of services and supplies is measured by $(1 - 1/Me)$.

ΔEX1l   Change in construction project expenditures used to hire local labor.

ΔEX1m   Change in construction project expenditures used to purchase local services and supplies.

ΔGEe   Change in local government education expenditures due to the military action.

ΔGEn   Net change in local government expenditures due to the military action.

ΔGEo Change in local government expenditures other than for education due to the military action. These expenditures provide local fire and police protection, sanitation, welfare and income assistance, parks and recreation, public transportation, etc.

ΔGEt Total change in local government expenditures due to the military action.

ΔGRe Change in Federal and State aid for education due to the military action.

ΔGRo Change in local government property and sales tax revenues due to the military action.

ΔGRt Total change in local government revenues due to the military action.

ΔIh Change in investment for local housing--both rental and owner-occupied.

ΔIo Change in investment for local non-housing type business activity.

ΔPOP Change in local population due to the military action.

ΔPV Change in the value of local real property.

ΔS Change in the number of children attending local public schools due to the military action. These children are the dependents of the civilian and military personnel affected by the military action.

SalAdj   This is a factor used in the CITA FA forecast model to estimate a population change due to a CITA action.

ΔYd Direct change in local wages and salaries due to the military action. This is assumed to be earnings of the employees in local retail, wholesale, and service establishments that are initially affected by the military action plus the income of the affected civilian and military personnel.

ΔYtr Total change in local personal income of residents due to the military action. This not only includes the direct and secondary changes in local personal income, adjusted for commuting patterns, but also includes the income of the civilian and military personnel initially affected by the military action.

ΔYtw Total change in local wages and salaries earned in the area due to the military action. This is the sum of the direct and secondary changes in wages and salaries p'us the income of the civilian and military personnel affected by the military action.

APPENDIX B: DEFINING STUDY AREAS

Introduction

Upon entering EIFS, the first question a user is asked is how he/she wants to define the study area. Mechanically, this task is simple: all one does is specify one or more counties. EIFS will carry out the necessary aggregations of its database to coincide with the desired geographic delineation. But how does one decide which counties to include and which counties to exclude? It is always the analyst's responsibility to define and be able to justify the region of interest. For a person not accustomed to carrying out regional analyses, justifying a particular study area may not be easy. Even among experienced regional analysts, delineating a study region is a thorny problem, but a very important issue. The justification of study areas is usually ignored--perhaps because the region is predefined (e.g., for an analysis of the fiscal impact of a tax cut within the State of Illinois) or maybe because the regions were the only available units of observation for a "cross-section" study.

With respect to military actions, such as installation closures, defining the geographic region of influence to analyze the economic and social effects of those actions has often proven to be very important and controversial. Its importance lies in the fact that the magnitude of the economic impacts is known to vary with the size of the study area.[19] That is, the economic impact of a military action on an entire state will generally be greater in absolute terms than the impact experienced in a single county. On the other hand, the economic impact will usually be greater at the local level if it is compared to current levels of economic activity.

Unfortunately, few universally accepted rules are available to help an analyst choose a study area. Thus, a region must be defined somewhat subjectively or arbitrarily. This means that careful thought and judgment should be exercised when delineating regions. Therefore, the following discussion provides several conceptual foundations and some practical advice to help EIFS users define and justify their study areas.

The Concept of a Region

Other than a geographic aggregate, what is a region? If an economist, geographer, cartographer, weather analyst, or forester were asked to define a region, there would probably be as many different answers as people questioned. This diversity of opinion is due mostly to the different uses of spatial aggregates.

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[19]J. A. Chalmers and E. J. Anderson, _Economic/Demographic Assessment Manual_ (Bureau of Reclamation, U.S. Department of the Interior, November 1977), p 13.

Edgar Hoover describes the nature of regions as follows:[20]

> Common to all definitions of a region is the idea of a
> geographic area constituting an entity, so that signifi-
> cant statements can be made about the area as a whole.
> . . . Basic to the idea of a region is a high degree of
> correlation of behavior among its various parts.

With respect to the first aspect, regions are useful for at least three
reasons. First, aggregating space into a region so that the area can be
described by its characteristics is more efficient and, at times, more useful
than examining its parts. For example, it is more convenient to compute and
examine totals or averages for a county as a whole than to examine the indi-
vidual census returns. Second, analyzing information for a regional aggregate
can be enlightening only if the activities within the area are interdependent.
And finally, administering, planning, and implementing public policies can be
more efficient if the basic data are aggregated to correspond to the area
being administered.

The second aspect of a region insures that the geographic aggregate
"makes sense." That is, before the region can be useful, the parts of the
geographic region must be interrelated in terms of the purpose for the spatial
aggregation. In other words, one cannot study the impact of floods on the
populace residing in a floodplain if the floodplain's geographic area is not
defined. The same is true of analyzing the economic and social impacts of a
military action; i.e., the geographic area affected by the military action
must be delineated.

Three conceptual types of regions are described within the regional anal-
ysis literature: administrative, homogeneous, and functional. Regions are
sometimes delineated along administrative or political boundaries (e.g., the
State of Alabama). It is claimed that since the institutional framework with-
in which economic and social policies are designed and implemented is of over-
riding importance, then the geographic unit of analysis should coincide with
the same administrative or political boundaries. Also, specialized data are
often compiled and reported only for administrative areas or political units.
The major problem with using administrative units for regional economic impact
analysis is that they rarely correspond to meaningful economic units. That
is, trading or commuting patterns are not normally inhibited from crossing
administrative or political boundaries such as county or state lines.

Homogeneity of one form or another can be used to justify some regions.
For example, one can envision a coal mining region, a river-basin region, an
air pollution region, or even a German-speaking area. What binds these areas
is usually some common physical, economic, social, or statistical characteris-
tic. Again, as with administrative regions, the interrelationships that
define economic areas usually do not coincide with the extent of a river
basin's floodplain for instance.

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[20]Edgar M. Hoover, An Introduction to Regional Economics, 2nd Edition (Alfred
A. Knopf, 1975), p 151.

Most regional and urban analysts performing socioeconomic impact analysis prefer the functional area concept for defining study regions.[21] Regions defined in this way explicitly consider the economic linkages and spatial dimensions between and among the residential population and businesses located in the geographic area. In other words, commuting and trading patterns are of prime concern. This type of region is often called "nodal" because:

> . . . the region is perceived as being composed of heter-
> ogeneous nodes of different size (cities, towns, villages
> and sparsely populated rural areas) that are linked
> together functionally. These functional links can be
> identified through observation of flows of people, fac-
> tors, goods and communications.[22]

Examination of a map shows that population and businesses are not spread evenly over space, but are concentrated at specific locations called "agglomerations." The factors that generate these agglomerations are varied: e.g., transportation advantages (such as the confluence of several rivers), resource deposits, factor endowments, local infrastructure (such as good schools and public transportation facilities), climate, and even proximity to firms that supply needed production requirements or provide ready markets.

Practical Issues

In defining study areas, one important issue is determining the smallest geographic unit for which data are available. This is important not only for defining regions, but also for carrying out analyses (especially socioeconomic impact analyses). Within EIFS, the county is the smallest geographic unit available for delineating study areas for impact analysis. From past experience, county aggregates have been quite adequate for defining regions to carry out economic and social impact analyses. Although some data are available at the census tract level (e.g., population and income) which could possibly be used to delineate regions, the data needed to analyze economic impacts are readily available only at the county level, unless one is willing to conduct expensive and time-consuming surveys.[23] The EIFS database does contain income and population estimates for census tracts and minor civil districts, but these data are not used to define study areas or to carry out socioeconomic impact analyses.

With respect to impact analyses, it is probably obvious that a region should be the geographic area in which the significant economic and social consequences of the project occur. But beyond the general conceptual guidelines for region types and the restriction of using counties as the smallest

[21]The concept of a functional economic area (FEA) appears to have been developed by Karl Fox: see K. A. Fox and T. K. Kuman, "The Functional Economic
Area: Delineation and Implications for Economic Analysis and Policy,"
Papers and Proceedings, Regional Science Association, Vol. 15 (1965),
pp 57-85.

[22]Harry W. Richardson, Regional Economics (University of Illinois Press,
1979), p 21.

[23]J. A. Chalmers and E. J. Anderson, p 13.

geographic units, there is not much formal advice about defining regions that can be given to EIFS users. However an analyst decides to delineate a study area, the decision will have to be based on his/her considered judgment, possibly from past experience, and on any specific knowledge of the area.

It may be useful to imagine a study area being comprised of two parts. The first, which may be called the "primary impact area," is the geographic area where those civilian and military personnel and their dependents directly affected by the proposed military action reside and shop. The second part, the "secondary impact area," is generally larger than the primary impact area, but also consists of the geographic area which is likely to capture the significant secondary economic impacts resulting from the spending behavior of the affected personnel and their dependents and any past expenditures for services and supplies affected by the action.

Of the two, rigorously defining the primary impact area is probably easier, because it is usually determined by the residence pattern of the affected civilian and military personnel (i.e., assuming they and their dependents shop near their residences). If the geographic pattern of expenditures by the affected personnel and their dependents is expected to differ greatly from their residence pattern, then some effort should also be made to determine the spatial pattern for expenditures. The primary impact area is likely to be the area in which the demographic and social effects of a military action are likely to be the most intense; thus, it is apt to be the area where most of the controversy is generated.

There are two ways to delineate primary impact areas. The first is to consult a map and, using a convenient radius, specify the geographic area surrounding the installation within which post employees are likely to reside and shop. In other words, "how far do the affected civilian and military personnel commute to work?" Note that it is wise to include all counties that fall within the commuting radius, either in total or in part. A recent survey of many Air Force personnel (both civilian and military) indicates that fewer than 1 percent reside more than 50 miles from the base where they work.[24] Appendix D provides the regional definitions of primary impact areas for selected military installation, based on a commuting radius of 50 miles.

If a proposed military action is expected to generate significant economic and social effects or if it is likely to be controversial with nearby communities, then a more rigorous definition of the primary impact area may be advisable; i.e., determine the actual residential and shopping patterns of the affected personnel. This can be done either by survey or by using information from personnel records. Then a simple "rule of thumb" can be adopted: e.g., "if 5 percent or more of the affected personnel reside in a particular county, then that county should be included in the primary impact area." The exact percentage for this rule should be fixed by judgment and will undoubtedly depend on the significance of the expected impacts or the level of controversy they are likely to generate. If the residence pattern of the affected civilian and military personnel cannot be determined with assurance (e.g., the

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[24]W. Gunther, Table 10 of A Socioeconomic Survey of Air Force Employees, a report prepared for Headquarters Air Force Engineering and Services Center (Tyndall AFB, Fl, November 15, 1982). p 17.

specific personnel to be affected by the action may not be identified), then the residence pattern of the entire installation work force may be substituted. Keep in mind that the geographic area may change if the residence pattern of the work force for the entire installation is much different than that of those employees directly affected by the proposed military action.

The task of defining the secondary impact area is not as straightforward as determining the primary impact area. Actually, this is equivalent to answering the following questions:

1. Where are the post expenditures for supplies and services made?

2. Where do the merchants that provide personnel and post operations with goods and services purchase their inventories?

3. Where do the employees of these local establishments reside?

In other words, the secondary impact area is the geographic region in which all the spending, responding, and productive activities implied by the "multiplier process" occur. Considering the importance of trade activity in the multiplier process, the secondary impact area should not only contain the primary impact area, but also any nearby trade and service centers and their market areas as well. In practice, this means that the study area for analyzing impacts of most military actions (i.e., the secondary impact area) will be larger than the primary impact area. However, two qualifications must be considered:

> In general, the more sparsely settled a study area, the larger will be the market area of the wholesale-retail center with the consequence that the regional (secondary) impact area will include large areas and will differ substantially from the local (primary) impact area. In more densely settled parts of the country, less difference will exist in the geographic boundaries of the two areas and in many parts of the East and the Upper Midwest, the two areas may coincide.[25]

An obvious choice for a major regional trade and service center to be included as part of the secondary impact area is a Standard Metropolitan Statistical Area (SMSA). SMSAs are likely choices because they include a central city or cities and the surrounding territory that is economically and socially dominated by the city. A major criterion for determining the boundaries of SMSAs is the commuting patterns of workers; however, the area included must be densely settled.[26] Consequently, not all areas of the country fall within the boundaries of an SMSA. This is unfortunate because if the primary impact area does not fall within the limits of any SMSA, the analyst must decide which SMSA to include in the secondary impact area. One could

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[25] J. A. Chalmers and E. J. Anderson, p 40.
[26] R. Nemin, A. Reznek, and R. Spoeri, Regions of Influence: Applicability of Existing Methodologies, Task Report 1 (Department of Commerce, 1979), p 4-2. A report prepared for the Environmental Planning Division, Directorate of Engineering Services, Headquarters Air Force Engineers, Tyndall AFB, FL.

choose the nearest SMSA to the primary impact area, but the nearest SMSA may not be the trade and service center that most attracts the merchants of the primary impact area. Appendix F shows the SMSAs and their constituent counties.

An alternative choice for secondary impact areas is the Bureau of Economic Analysis (BEA) economic areas. These areas (183 in all, covering all of the United States, including Alaska and Hawaii) were delineated specifically from the principles for functional economic areas (as proposed by Fox and Kumar)[27] and are good choices as secondary impact areas. To be specific:

> The Bureau of Economic Analysis (BEA) Economic Areas are nodal functional areas delineated to facilitate regional economical analysis. Each area consists of an economic node--a standard metropolitan statistical area (SMSA), or similar area, that serves as a center of economic activity--and the surrounding counties that are economically related to the center. To the extent possible, each area includes the place-of-work and place-of-residence of its labor force.[28]

For rural counties, where commuting patterns cannot be determined by economic ties, the assignment to BEA economic areas was made with supplemental data, such as metropolitan newspaper circulation figures and the advice of State and local officials who were familiar with the geographic and economic characteristics of the areas. Final delineations were made after a review by State planning offices, university bureaus of business and economic research, and field offices of Federal agencies involved in water resource planning.[29] Appendix E lists BEA economic areas and their constituent counties.

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[27]K. A. Fox and T. K. Kumar, pp 57-85.

[28]Bureau of Economic Analysis, BEA Economic Areas (U.S. Department of Commerce, 1977), p 1.

[29]Bureau of Economic Analysis, 1980 OBERS BEA Regional Projections (U.S. Department of Commerce, July 1981), p 189.

Code	Name
01000	state of alabama
01001	autauga
01003	baldwin
01005	barbour
01007	bibb
01009	blount
01011	bullock
01013	butler
01015	calhoun
01017	chambers
01019	cherokee
01021	chilton
01023	choctaw
01025	clarke
01027	clay
01029	cleburne
01031	coffee
01033	colbert
01035	conecuh
01037	coosa
01039	covington
01041	crenshaw
01043	cullman
01045	dale
01047	dallas
01049	de kalb
01051	elmore
01053	escambia
01055	etowah
01057	fayette
01059	franklin
01061	geneva
01063	greene
01065	hale
01067	henry
01069	houston
01071	jackson
01073	jefferson
01075	lamar
01077	lauderdale
01079	lawrence
01081	lee
01083	limestone
01085	lowndes
01087	macon
01089	madison
01091	marengo
01093	marion
01095	marshall
01097	mobile
01099	monroe
01101	montgomery
01103	morgan
01105	perry
01107	pickens
01109	pike
01111	randolph
01113	russell
01115	st clair
01117	shelby
01119	sumter
01121	talladega
01123	tallapoosa
01125	tuscaloosa
01127	walker
01129	washington
01131	wilcox
01133	winston
02000	state of alaska
02010	aleutian islands
02020	anchorage
02030	angoon
02040	barrow
02050	bethel
02060	bristol bay borough
02070	bristol bay division
02080	cordova mc carthy
02090	fairbanks
02100	haines
02110	juneau
02120	kenai cook inlet
02130	ketchikan
02140	kobuk
02150	kodiak
02160	kuskokwim
02170	matanuska susitna
02180	nome
02190	outer ketchikan
02200	prince of wales
02210	seward
02220	sitka
02230	skagway yakutat
02240	southeast fairbanks
02250	upper yukon
02260	valdez chitina whittier
02270	wade hampton
02280	wrangell petersburg
02290	yukon koyukuk
04000	state of arizona
04001	apache
04003	cochise
04005	coconino
04007	gila
04009	graham
04011	greenlee
04013	maricopa
04015	mohave
04017	navajo
04019	pima
04021	pinal
04023	santa cruz
04025	yavapai
04027	yuma

Code	County	Code	County	Code	County	Code	County
05000	state of arkansas	05099	nevada	06000	state of california	06099	stanislaus
05001	arkansas	05101	newton	06001	alameda	06101	sutter
05003	ashley	05103	ouachita	06003	alpine	06103	tehama
05005	baxter	05105	perry	06005	amador	06105	trinity
05307	benton	05107	phillips	06007	butte	06107	tulare
05009	boone	05109	pike	06009	calaveras	06109	tuolumne
05211	bradley	05111	poinsett	06011	colusa	06111	ventura
05013	calhoun	05113	polk	06013	contra costa	06113	yolo
05015	carroll	05115	pope	06015	del norte	06115	yuba
05017	chicot	05117	prairie	06017	el dorado		
05019	clark	05119	pulaski	06019	fresno		
05021	clay	05121	randolph	06021	glenn		
05023	cleburne	05123	st francis	06023	humboldt		
05025	cleveland	05125	saline	06025	imperial		
05027	columbia	05127	scott	06027	inyo		
05029	conway	05129	searcy	06029	kern		
05031	craighead	05131	sebastian	06031	kings		
05033	crawford	05133	sevier	06033	lake		
05035	crittenden	05135	sharp	06035	lassen		
05037	cross	05137	stone	06037	los angeles		
05039	dallas	05139	union	06039	madera		
05041	desha	05141	van buren	06041	marin		
05043	drew	05143	washington	06043	mariposa		
05045	faulkner	05145	white	06045	mendocino		
05047	franklin	05147	woodruff	06047	merced		
05049	fulton	05149	yell	06049	modoc		
05051	garland			06051	mono		
05053	grant			06053	monterey		
05055	greene			06055	napa		
05057	hempstead			06057	nevada		
05059	hot spring			06059	orange		
05061	howard			06061	placer		
05063	independence			06063	plumas		
05065	izard			06065	riverside		
05067	jackson			06067	sacramento		
05069	jefferson			06069	san benito		
05071	johnson			06071	san bernardino		
05073	lafayette			06073	san diego		
05075	lawrence			06075	san francisco		
05077	lee			06077	san joaquin		
05079	lincoln			06079	san luis obispo		
05081	little river			06081	san mateo		
05083	logan			06083	santa barbara		
05085	lonoke			06085	santa clara		
05087	madison			06087	santa cruz		
05089	marion			06089	shasta		
05091	miller			06091	sierra		
05093	mississippi			06093	siskiyou		
05095	monroe			06095	solano		
05097	montgomery			06097	sonoma		

08000	state of colorado
08001	adams
08003	alamosa
08005	arapahoe
08007	archuleta
08009	baca
08011	bent
08013	boulder
08015	chaffee
08017	cheyenne
08019	clear creek
08021	conejos
08023	costilla
08025	crowley
08027	custer
08029	delta
08031	denver
08033	dolores
08035	douglas
08037	eagle
08039	elbert
08041	el paso
08043	fremont
08045	garfield
08047	gilpin
08049	grand
08051	gunnison
08053	hinsdale
08055	huerfano
08057	jackson
08059	jefferson
08061	kiowa
08063	kit carson
08065	lake
08067	la plata
08069	larimer
08071	las animas
08073	lincoln
08075	logan
08077	mesa
08079	mineral
08081	moffat
08083	montezuma
08085	montrose
08087	morgan
08089	otero
08091	ouray
08093	park
08095	phillips
08097	pitkin
08099	prowers
08101	pueblo
08103	rio blanco
08105	rio grande
08107	routt
08109	saguache
08111	san juan
08113	san miguel
08115	sedgwick
08117	summit
08119	teller
08121	washington
08123	weld
08125	yuma

09000	state of connecticut
09001	fairfield
09003	hartford
09005	litchfield
09007	middlesex
09009	new haven
09011	new london
09013	tolland
09015	windham

10000	state of delaware
10001	kent
10003	new castle
10005	sussex

11000	district of columbia
11001	district of columbia

12000	state of florida
12001	alachua
12003	baker
12005	bay
12007	bradford
12009	brevard
12011	broward
12013	calhoun
12015	charlotte
12017	citrus
12019	clay
12021	collier
12023	columbia
12025	dade
12027	de soto
12029	dixie
12031	duval
12033	escambia
12035	flagler
12037	franklin
12039	gadsden
12041	gilchrist
12043	glades
12045	gulf
12047	hamilton
12049	hardee
12051	hendry
12053	hernando
12055	highlands
12057	hillsborough
12059	holmes
12061	indian river
12063	jackson
12065	jefferson
12067	lafayette
12069	lake
12071	lee
12073	leon
12075	levy
12077	liberty
12079	madison
12081	manatee
12083	marion
12085	martin
12087	monroe
12089	nassau
12091	okaloosa
12093	okeechobee
12095	orange
12097	osceola

12099 palm beach
12201 pasco
12103 pinellas
12105 polk
12107 putnam
12109 st johns
12111 st lucie
12113 santa rosa
12115 sarasota
12117 seminole
12119 sumter
12121 suwannee
12123 taylor
12125 union
12127 volusia
12129 wakulla
12131 walton
12133 washington

13000 state of georgia
13001 appling
13003 atkinson
13005 bacon
13007 baker
13009 baldwin
13011 banks
13013 barrow
13015 bartow
13017 ben hill
13019 berrien
13021 bibb
13023 bleckley
13025 brantley
13027 brooks
13029 bryan
13031 bulloch
13033 burke
13035 butts
13037 calhoun
13039 camden
13043 candler
13045 carroll
13047 catoosa
13049 charlton
13051 chatham
13053 chattahoochee
13055 chattooga
13057 cherokee
13059 clarke
13061 clay
13063 clayton
13065 clinch
13067 cobb
13069 coffee
13071 colquitt
13073 columbia
13075 cook
13077 coweta
13079 crawford
13081 crisp
13083 dade
13085 dawson
13087 decatur
13089 de kalb
13091 dodge
13093 dooly
13095 dougherty
13097 douglas
13099 early

13101 echols
13103 effingham
13105 elbert
13107 emanuel
13109 evans
13111 fannin
13113 fayette
13115 floyd
13117 forsyth
13119 franklin
13121 fulton
13123 gilmer
13125 glascock
13127 glynn
13129 gordon
13131 grady
13133 greene
13135 gwinnett
13137 habersham
13139 hall
13141 hancock
13143 haralson
13145 harris
13147 hart
13149 heard
13151 henry
13153 houston
13155 irwin
13157 jackson
13159 jasper
13161 jeff davis
13163 jefferson
13165 jenkins
13167 johnson
13169 jones
13171 lamar
13173 lanier
13175 laurens
13177 lee
13179 liberty
13181 lincoln
13183 long
13185 lowndes
13187 lumpkin
13189 mc duffie
13191 mc intosh
13193 macon
13195 madison
13197 marion
13199 meriwether

13201 miller
13205 mitchell
13207 monroe
13209 montgomery
13211 morgan
13213 murray
13217 newton
13219 oconee
13221 oglethorpe
13223 paulding
13225 peach
13227 pickens
13229 pierce
13231 pike
13233 polk
13235 pulaski
13237 putnam
13239 quitman
13241 rabun
13243 randolph
13245 richmond
13247 rockdale
13249 schley
13251 screven
13253 seminole
13255 spalding
13257 stephens
13259 stewart
13261 sumter
13263 talbot
13265 taliaferro
13267 tattnall
13269 taylor
13271 telfair
13273 terrell
13275 thomas
13277 tift
13279 toombs
13281 towns
13283 treutlen
13285 troup
13287 turner
13289 twiggs
13291 union
13293 upson
13295 walker
13297 walton
13299 ware
13301 warren
13303 washington

108

15305 wayne
13307 webster
13309 wheeler
13311 white
13313 whitfield
13315 wilcox
13317 wilkes
13319 wilkinson
13321 worth
13510 columbus

15000 state of hawaii
15001 hawaii
15003 honolulu
15007 kauai
15009 maui

16000 state of idaho
16001 ada
16003 adams
16005 bannock
16007 bear lake
16009 benewah
16011 bingham
16013 blaine
16015 boise
16017 bonner
16019 bonneville
16021 boundary
16023 butte
16025 camas
16027 canyon
16029 caribou
16031 cassia
16033 clark
16035 clearwater
16037 custer
16039 elmore
16041 franklin
16043 fremont
16045 gem
16047 gooding
16049 idaho
16051 jefferson
16053 jerome
16055 kootenai
16057 latah
16059 lemhi
16061 lewis
16063 lincoln
16065 madison
16067 minidoka
16069 nez perce
16071 oneida
16073 owyhee
16075 payette
16077 power
16079 shoshone
16081 teton
16083 twin falls
16085 valley
16087 washington

17000 state of illinois
17001 adams
17003 alexander
17005 bond
17007 boone
17009 brown
17011 bureau
17013 calhoun
17015 carroll
17017 cass
17019 champaign
17021 christian
17023 clark
17025 clay
17027 clinton
17029 coles
17031 cook
17033 crawford
17035 cumberland
17037 de witt
17039 de kalb
17041 douglas
17043 du page
17045 edgar
17047 edwards
17049 effingham
17051 fayette
17053 ford
17055 franklin
17057 fulton
17059 gallatin
17061 greene
17063 grundy
17065 hamilton
17067 hancock
17069 hardin
17071 henderson
17073 henry
17075 iroquois
17077 jackson
17079 jasper
17081 jefferson
17083 jersey
17085 jo daviess
17087 johnson
17089 kane
17091 kankakee
17093 kendall
17095 knox
17097 lake

17099 la salle
17101 lawrence
17103 lee
17105 livingston
17107 logan
17109 mc donough
17111 mc henry
17113 mc lean
17115 macon
17117 macoupin
17119 madison
17121 marion
17123 marshall
17125 mason
17127 massac
17129 menard
17131 mercer
17133 monroe
17135 montgomery
17137 morgan
17139 moultrie
17141 ogle
17143 peoria
17145 perry
17147 piatt
17149 pike
17151 pope
17153 pulaski
17155 putnam
17157 randolph
17159 richland
17161 rock island
17163 st clair
17165 saline
17167 sangamon
17169 schuyler
17171 scott
17173 shelby
17175 stark
17177 stephenson
17179 tazewell
17181 union
17183 vermilion
17185 wabash
17187 warren
17189 washington
17191 wayne
17193 white
17195 whiteside
17197 will

17199 williamson
17201 winnebago
17203 woodford

18000 state of indiana
18001 adams
18003 allen
18005 bartholomew
18007 benton
18009 blackford
18011 boone
18013 brown
18015 carroll
18017 cass
18019 clark
18021 clay
18023 clinton
18025 crawford
18027 daviess
18029 dearborn
18031 decatur
18033 de kalb
18035 delaware
18037 dubois
18039 elkhart
18041 fayette
18043 floyd
18045 fountain
18047 franklin
18049 fulton
18051 gibson
18053 grant
18055 greene
18057 hamilton
18059 hancock
18061 harrison
18063 hendricks
18065 henry
18067 howard
18069 huntington
18071 jackson
18073 jasper
18075 jay
18077 jefferson
18079 jennings
18081 johnson
18083 knox
18085 kosciusko
18087 lagrange
18089 lake
18091 la porte
18093 lawrence
18095 madison
18097 marion

18099 marshall
18101 martin
18103 miami
18105 monroe
18107 montgomery
18109 morgan
18111 newton
18113 noble
18115 ohio
18117 orange
18119 owen
18121 parke
18123 perry
18125 pike
18127 porter
18129 posey
18131 pulaski
18133 putnam
18135 randolph
18137 ripley
18139 rush
18141 st joseph
18143 scott
18145 shelby
18147 spencer
18149 starke
18151 steuben
18153 sullivan
18155 switzerland
18157 tippecanoe
18159 tipton
18161 union
18163 vanderburgh
18165 vermillion
18167 vigo
18169 wabash
18171 warren
18173 warrick
18175 washington
18177 wayne
18179 wells
18181 white
18183 whitley

Code	County	Code	County	Code	County	Code	County
19000	state of iowa	19099	jasper	20000	state of kansas	20099	labette
19001	adair	19101	jefferson	20001	allen	20101	lane
19003	adams	19103	johnson	20003	anderson	20103	leavenworth
19005	allamakee	19105	jones	20005	atchison	20105	lincoln
19007	appanoose	19107	keokuk	20007	barber	20107	linn
19009	audubon	19109	kossuth	20009	barton	20109	logan
19011	benton	19111	lee	20011	bourbon	20111	lyon
19013	black hawk	19113	linn	20013	brown	20113	mc pherson
19015	boone	19115	louisa	20015	butler	20115	marion
19017	bremer	19117	lucas	20017	chase	20117	marshall
19019	buchanan	19119	lyon	20019	chautauqua	20119	meade
19021	buena vista	19121	madison	20021	cherokee	20121	miami
19023	butler	19123	mahaska	20023	cheyenne	20123	mitchell
19025	calhoun	19125	marion	20025	clark	20125	montgomery
19027	carroll	19127	marshall	20027	clay	20127	morris
19029	cass	19129	mills	20029	cloud	20129	morton
19031	cedar	19131	mitchell	20031	coffey	20131	nemaha
19033	cerro gordo	19133	monona	20033	comanche	20133	neosho
19035	cherokee	19135	monroe	20035	cowley	20135	ness
19037	chickasaw	19137	montgomery	20037	crawford	20137	norton
19039	clarke	19139	muscatine	20039	decatur	20139	osage
19041	clay	19141	o brien	20041	dickinson	20141	osborne
19043	clayton	19143	osceola	20043	doniphan	20143	ottawa
19045	clinton	19145	page	20045	douglas	20145	pawnee
19047	crawford	19147	palo alto	20047	edwards	20147	phillips
19049	dallas	19149	plymouth	20049	elk	20149	pottawatomie
19051	davis	19151	pocahontas	20051	ellis	20151	pratt
19053	decatur	19153	polk	20053	ellsworth	20153	rawlins
19055	delaware	19155	pottawattamie	20055	finney	20155	reno
19057	des moines	19157	poweshiek	20057	ford	20157	republic
19059	dickinson	19159	ringgold	20059	franklin	20159	rice
19061	dubuque	19161	sac	20061	geary	20161	riley
19063	emmet	19163	scott	20063	gove	20163	rooks
19065	fayette	19165	shelby	20065	graham	20165	rush
19067	floyd	19167	sioux	20067	grant	20167	russell
19069	franklin	19169	story	20069	gray	20169	saline
19071	fremont	19171	tama	20071	greeley	20171	scott
19073	greene	19173	taylor	20073	greenwood	20173	sedgwick
19075	grundy	19175	union	20075	hamilton	20175	seward
19077	guthrie	19177	van buren	20077	harper	20177	shawnee
19079	hamilton	19179	wapello	20079	harvey	20179	sheridan
19081	hancock	19181	warren	20081	haskell	20181	sherman
19083	hardin	19183	washington	20083	hodgeman	20183	smith
19085	harrison	19185	wayne	20085	jackson	20185	stafford
19087	henry	19187	webster	20087	jefferson	20187	stanton
19089	howard	19189	winnebago	20089	jewell	20189	stevens
19091	humboldt	19191	winneshiek	20091	johnson	20191	sumner
19093	ida	19193	woodbury	20093	kearny	20193	thomas
19095	iowa	19195	worth	20095	kingman	20195	trego
19097	jackson	19197	wright	20097	kiowa	20197	wabaunsee

21000 state of kentucky
21001 adair
21003 allen
21005 anderson
21007 ballard
21009 barren
21011 bath
21013 bell
21015 boone
21017 bourbon
21019 boyd
21021 boyle
21023 bracken
21025 breathitt
21027 breckinridge
21029 bullitt
21031 butler
21033 caldwell
21035 calloway
21037 campbell
21039 carlisle
21041 carroll
21043 carter
21045 casey
21047 christian
21049 clark
21051 clay
21053 clinton
21055 crittenden
21057 cumberland
21059 daviess
21061 edmonson
21063 elliott
21065 estill
21067 fayette
21069 fleming
21071 floyd
21073 franklin
21075 fulton
21077 gallatin
21079 garrard
21081 grant
21083 graves
21085 grayson
21087 green
21089 greenup
21091 hancock
21093 hardin
21095 harlan
21097 harrison

21099 hart
21101 henderson
21103 henry
21105 hickman
21107 hopkins
21109 jackson
21111 jefferson
21113 jessamine
21115 johnson
21117 kenton
21119 knott
21121 knox
21123 larue
21125 laurel
21127 lawrence
21129 lee
21131 leslie
21133 letcher
21135 lewis
21137 lincoln
21139 livingston
21141 logan
21143 lyon
21145 mc cracken
21147 mc creary
21149 mc lean
21151 madison
21153 magoffin
21155 marion
21157 marshall
21159 martin
21161 mason
21163 meade
21165 menifee
21167 mercer
21169 metcalfe
21171 monroe
21173 montgomery
21175 morgan
21177 muhlenberg
21179 nelson
21181 nicholas
21183 ohio
21185 oldham
21187 owen
21189 owsley
21191 pendleton
21193 perry
21195 pike
21197 powell

21199 pulaski
21201 robertson
21203 rockcastle
21205 rowan
21207 russell
21209 scott
21211 shelby
21213 simpson
21215 spencer
21217 taylor
21219 todd
21221 trigg
21223 trimble
21225 union
21227 warren
21229 washington
21231 wayne
21233 webster
21235 whitley
21237 wolfe
21239 woodford

22000 state of louisiana	22099 st martin	23000 state of maine	24000 state of maryland
22001 acadia	22101 st mary	23001 androscoggin	24001 allegany
22003 allen	22103 st tammany	23003 aroostook	24003 anne arundel
22005 ascension	22105 tangipahoa	23005 cumberland	24005 baltimore
22007 assumption	22107 tensas	23007 franklin	24009 calvert
22009 avoyelles	22109 terrebonne	23009 hancock	24011 caroline
22011 beauregard	22111 union	23011 kennebec	24013 carroll
22013 bienville	22113 vermilion	23013 knox	24015 cecil
22015 bossier	22115 vernon	23015 lincoln	24017 charles
22017 caddo	22117 washington	23017 oxford	24019 dorchester
22019 calcasieu	22119 webster	23019 penobscot	24021 frederick
22021 caldwell	22121 west baton rouge	23021 piscataquis	24023 garrett
22023 cameron	22123 west carroll	23023 sagadahoc	24025 harford
22025 catahoula	22125 west feliciana	23025 somerset	24027 howard
22027 claiborne	22127 winn	23027 waldo	24029 kent
22029 concordia		23029 washington	24031 montgomery
22031 de soto		23031 york	24033 prince georges
22033 east baton rouge			24035 queen annes
22035 east carroll			24037 st marys
22037 east feliciana			24039 somerset
22039 evangeline			24041 talbot
22041 franklin			24043 washington
22043 grant			24045 wicomico
22045 iberia			24047 worcester
22047 iberville			24510 baltimore city
22049 jackson			
22051 jefferson			
22053 jefferson davis			
22055 lafayette			
22057 lafourche			
22059 la salle			
22061 lincoln			
22063 livingston			
22065 madison			
22067 morehouse			
22069 natchitoches			
22071 orleans			
22073 ouachita			
22075 plaquemines			
22077 pointe coupee			
22079 rapides			
22081 red river			
22083 richland			
22085 sabine			
22087 st bernard			
22089 st charles			
22091 st helena			
22093 st james			
22095 st john the baptist			
22097 st landry			

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25000 state of massachusetts	26000 state of michigan	26099 macomb	27000 state of minnesota
25001 barnstable	26001 alcona	26101 manistee	27001 aitkin
25003 berkshire	26003 alger	26103 marquette	27003 anoka
25005 bristol	26005 allegan	26105 mason	27005 becker
25007 dukes	26007 alpena	26107 mecosta	27007 beltrami
25009 essex	26009 antrim	26109 menominee	27009 benton
25011 franklin	26011 arenac	26111 midland	27011 big stone
25013 hampden	26013 baraga	26113 missaukee	27013 blue earth
25015 hampshire	26015 barry	26115 monroe	27015 brown
25017 middlesex	26017 bay	26117 montcalm	27017 carlton
25019 nantucket	26019 benzie	26119 montmorency	27019 carver
25021 norfolk	26021 berrien	26121 muskegon	27021 cass
25023 plymouth	26023 branch	26123 newaygo	27023 chippewa
25025 suffolk	26025 calhoun	26125 oakland	27025 chisago
25027 worcester	26027 cass	26127 oceana	27027 clay
	26029 charlevoix	26129 ogemaw	27029 clearwater
	26031 cheboygan	26131 ontonagon	27031 cook
	26033 chippewa	26133 osceola	27033 cottonwood
	26035 clare	26135 oscoda	27035 crow wing
	26037 clinton	26137 otsego	27037 dakota
	26039 crawford	26139 ottawa	27039 dodge
	26041 delta	26141 presque isle	27041 douglas
	26043 dickinson	26143 roscommon	27043 faribault
	26045 eaton	26145 saginaw	27045 fillmore
	26047 emmet	26147 st clair	27047 freeborn
	26049 genesee	26149 st joseph	27049 goodhue
	26051 gladwin	26151 sanilac	27051 grant
	26053 gogebic	26153 schoolcraft	27053 hennepin
	26055 grand traverse	26155 shiawassee	27055 houston
	26057 gratiot	26157 tuscola	27057 hubbard
	26059 hillsdale	26159 van buren	27059 isanti
	26061 houghton	26161 washtenaw	27061 itasca
	26063 huron	26163 wayne	27063 jackson
	26065 ingham	26165 wexford	27065 kanabec
	26067 ionia		27067 kandiyohi
	26069 iosco		27069 kittson
	26071 iron		27071 koochiching
	26073 isabella		27073 lac qui parle
	26075 jackson		27075 lake
	26077 kalamazoo		27077 lake of the woods
	26079 kalkaska		27079 le sueur
	26081 kent		27081 lincoln
	26083 keweenaw		27083 lyon
	26085 lake		27085 mc leod
	26087 lapeer		27087 mahnomen
	26089 leelanau		27089 marshall
	26091 lenawee		27091 martin
	26093 livingston		27093 meeker
	26095 luce		27095 mille lacs
	26097 mackinac		27097 morrison

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27099 mower
27101 murray
27103 nicollet
27105 nobles
27107 norman
27109 olmsted
27111 otter tail
27113 pennington
27115 pine
27117 pipestone
27119 polk
27121 pope
27123 ramsey
27125 red lake
27127 redwood
27129 renville
27131 rice
27133 rock
27135 roseau
27137 st louis
27139 scott
27141 sherburne
27143 sibley
27145 stearns
27147 steele
27149 stevens
27151 swift
27153 todd
27155 traverse
27157 wabasha
27159 wadena
27161 waseca
27163 washington
27165 watonwan
27167 wilkin
27169 winona
27171 wright
27173 yellow medicine

28000 state of mississippi
28001 adams
28003 alcorn
28005 amite
28007 attala
28009 benton
28011 bolivar
28013 calhoun
28015 carroll
28017 chickasaw
28019 choctaw
28021 claiborne
28023 clarke
28025 clay
28027 coahoma
28029 copiah
28031 covington
28033 de soto
28035 forrest
28037 franklin
28039 george
28041 greene
28043 grenada
28045 hancock
28047 harrison
28049 hinds
28051 holmes
28053 humphreys
28055 issaquena
28057 itawamba
28059 jackson
28061 jasper
28063 jefferson
28065 jefferson davis
28067 jones
28069 kemper
28071 lafayette
28073 lamar
28075 lauderdale
28077 lawrence
28079 leake
28081 lee
28083 leflore
28085 lincoln
28087 lowndes
28089 madison
28091 marion
28093 marshall
28095 monroe
28097 montgomery

28099 neshoba
28101 newton
28103 noxubee
28105 oktibbeha
28107 panola
28109 pearl river
28111 perry
28113 pike
28115 pontotoc
28117 prentiss
28119 quitman
28121 rankin
28123 scott
28125 sharkey
28127 simpson
28129 smith
28131 stone
28133 sunflower
28135 tallahatchie
28137 tate
28139 tippah
28141 tishomingo
28143 tunica
28145 union
28147 walthall
28149 warren
28151 washington
28153 wayne
28155 webster
28157 wilkinson
28159 winston
28161 yalobusha
28163 yazoo

29000 state of missouri
29001 adair
29003 andrew
29005 atchison
29007 audrain
29009 barry
29011 barton
29013 bates
29015 benton
29017 bollinger
29019 boone
29021 buchanan
29023 butler
29025 caldwell
29027 callaway
29029 camden
29031 cape girardeau
29033 carroll
29035 carter
29037 cass
29039 cedar
29041 chariton
29043 christian
29045 clark
29047 clay
29049 clinton
29051 cole
29053 cooper
29055 crawford
29057 dade
29059 dallas
29061 daviess
29063 de kalb
29065 dent
29067 douglas
29069 dunklin
29071 franklin
29073 gasconade
29075 gentry
29077 greene
29079 grundy
29081 harrison
29083 henry
29085 hickory
29087 holt
29089 howard
29091 howell
29093 iron
29095 jackson
29097 jasper

30101 toole
30103 treasure
30105 valley
30107 wheatland
30109 wibaux
30111 yellowstone
30901 park

30000 state of montana
30001 beaverhead
30003 big horn
30005 blaine
30007 broadwater
30009 carbon
30011 carter
30013 cascade
30015 chouteau
30017 custer
30019 daniels
30021 dawson
30023 deer lodge
30025 fallon
30027 fergus
30029 flathead
30031 gallatin
30033 garfield
30035 glacier
30037 golden valley
30039 granite
30041 hill
30043 jefferson
30045 judith basin
30047 lake
30049 lewis and clark
30051 liberty
30053 lincoln
30055 mc cone
30057 madison
30059 meagher
30061 mineral
30063 missoula
30065 musselshell
30069 petroleum
30071 phillips
30073 pondera
30075 powder river
30077 powell
30079 prairie
30081 ravalli
30083 richland
30085 roosevelt
30087 rosebud
30089 sanders
30091 sheridan
30093 silver bow
30095 stillwater
30097 sweet grass
30099 teton

29201 scott
29203 shannon
29205 shelby
29207 stoddard
29209 stone
29211 sullivan
29213 taney
29215 texas
29217 vernon
29219 warren
29221 washington
29223 wayne
29225 webster
29227 worth
29229 wright
29510 st louis city

29099 jefferson
29101 johnson
29103 knox
29105 laclede
29107 lafayette
29109 lawrence
29111 lewis
29113 lincoln
29115 linn
29117 livingston
29119 mc donald
29121 macon
29123 madison
29125 maries
29127 marion
29129 mercer
29131 miller
29133 mississippi
29135 moniteau
29137 monroe
29139 montgomery
29141 morgan
29143 new madrid
29145 newton
29147 nodaway
29149 oregon
29151 osage
29153 ozark
29155 pemiscot
29157 perry
29159 pettis
29161 phelps
29163 pike
29165 platte
29167 polk
29169 pulaski
29171 putnam
29173 ralls
29175 randolph
29177 ray
29179 reynolds
29181 ripley
29183 st charles
29185 st clair
29187 st francois
29189 st louis
29193 ste genevieve
29195 saline
29197 schuyler
29199 scotland

31000 state of nebraska	31099 kearney	32000 state of nevada	33000 state of new hampshire
31001 adams	31101 keith	32001 churchill	33001 belknap
31003 antelope	31103 keya paha	32003 clark	33003 carroll
31005 arthur	31105 kimball	32005 douglas	33005 cheshire
31007 banner	31107 knox	32007 elko	33007 coos
31009 blaine	31109 lancaster	32009 esmeralda	33009 grafton
31011 boone	31111 lincoln	32011 eureka	33011 hillsborough
31013 box butte	31113 logan	32013 humboldt	33013 merrimack
31015 boyd	31115 loup	32015 lander	33015 rockingham
31017 brown	31117 mc pherson	32017 lincoln	33017 strafford
31019 buffalo	31119 madison	32019 lyon	33019 sullivan
31021 burt	31121 merrick	32021 mineral	
31023 butler	31123 morrill	32023 nye	
31025 cass	31125 nance	32027 pershing	
31027 cedar	31127 nemaha	32029 storey	
31029 chase	31129 nuckolls	32031 washoe	
31031 cherry	31131 otoe	32033 white pine	
31033 cheyenne	31133 pawnee	32510 carson city city	
31035 clay	31135 perkins		
31037 colfax	31137 phelps		
31039 cuming	31139 pierce		
31041 custer	31141 platte		
31043 dakota	31143 polk		
31045 dawes	31145 red willow		
31047 dawson	31147 richardson		
31049 deuel	31149 rock		
31051 dixon	31151 saline		
31053 dodge	31153 sarpy		
31055 douglas	31155 saunders		
31057 dundy	31157 scotts bluff		
31059 fillmore	31159 seward		
31061 franklin	31161 sheridan		
31063 frontier	31163 sherman		
31065 furnas	31165 sioux		
31067 gage	31167 stanton		
31069 garden	31169 thayer		
31071 garfield	31171 thomas		
31073 gosper	31173 thurston		
31075 grant	31175 valley		
31077 greeley	31177 washington		
31079 hall	31179 wayne		
31081 hamilton	31181 webster		
31083 harlan	31183 wheeler		
31085 hayes	31185 york		
31087 hitchcock			
31089 holt			
31091 hooker			
31093 howard			
31095 jefferson			
31097 johnson			

state of new jersey

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36C00 state of new jersey
36001 atlantic
36003 bergen
36005 burlington
36007 camden
36009 cape may
36011 cumberland
36013 essex
36015 gloucester
36017 hudson
36019 hunterdon
36021 mercer
36023 middlesex
36025 monmouth
36027 morris
36029 ocean
36031 passaic
36033 salem
36035 somerset
36037 sussex
36039 union
36061 warren
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state of new mexico

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35000 state of new mexico
35001 bernalillo
35003 catron
35005 chaves
35007 colfax
35009 curry
35011 de baca
35013 dona ana
35015 eddy
35017 grant
35019 guadalupe
35021 harding
35023 hidalgo
35025 lea
35027 lincoln
35029 los alamos
35029 luna
35031 mc kinley
35033 mora
35035 otero
35037 quay
35039 rio arriba
35041 roosevelt
35043 sandoval
35045 san juan
35047 san miguel
35049 santa fe
35051 sierra
35053 socorro
35055 taos
35057 torrance
35059 union
35061 valencia
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state of new york

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36000 state of new york
36001 albany
36003 allegany
36005 bronx
36007 broome
36009 cattaraugus
36011 cayuga
36013 chautauqua
36015 chemung
36017 chenango
36019 clinton
36021 columbia
36023 cortland
36025 delaware
36027 dutchess
36029 erie
36031 essex
36033 franklin
36035 fulton
36037 genesee
36039 greene
36041 hamilton
36043 herkimer
36045 jefferson
36047 kings
36049 lewis
36051 livingston
36053 madison
36055 monroe
36057 montgomery
36059 nassau
36061 new york
36063 niagara
36065 oneida
36067 onondaga
36069 ontario
36071 orange
36073 orleans
36075 oswego
36077 otsego
36079 putnam
36081 queens
36083 rensselaer
36085 richmond
36087 rockland
36089 st lawrence
36091 saratoga
36093 schenectady
36095 schoharie
36097 schuyler
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36099 seneca
36101 steuben
36103 suffolk
36105 sullivan
36107 tioga
36109 tompkins
36111 ulster
36113 warren
36115 washington
36117 wayne
36119 westchester
36121 wyoming
36123 yates
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State of Oklahoma (continued)

40099 murray
40101 muskogee
40103 noble
40105 nowata
40107 okfuskee
40109 oklahoma
40111 okmulgee
40113 osage
40115 ottawa
40117 pawnee
40119 payne
40121 pittsburg
40123 pontotoc
40125 pottawatomie
40127 pushmataha
40129 roger mills
40131 rogers
40133 seminole
40135 sequoyah
40137 stephens
40139 texas
40141 tillman
40143 tulsa
40145 wagoner
40147 washington
40149 washita
40151 woods
40153 woodward

State of Oregon

41000 state of oregon
41001 baker
41003 benton
41005 clackamas
41007 clatsop
41009 columbia
41011 coos
41013 crook
41015 curry
41017 deschutes
41019 douglas
41021 gilliam
41023 grant
41025 harney
41027 hood river
41029 jackson
41031 jefferson
41033 josephine
41035 klamath
41037 lake
41039 lane
41041 lincoln
41043 linn
41045 malheur
41047 marion
41049 morrow
41051 multnomah
41053 polk
41055 sherman
41057 tillamook
41059 umatilla
41061 union
41063 wallowa
41065 wasco
41067 washington
41069 wheeler
41071 yamhill

State of Pennsylvania

42000 state of pennsylvania
42001 adams
42003 allegheny
42005 armstrong
42007 beaver
42009 bedford
42011 berks
42013 blair
42015 bradford
42017 bucks
42019 butler
42021 cambria
42023 cameron
42025 carbon
42027 centre
42029 chester
42031 clarion
42033 clearfield
42035 clinton
42037 columbia
42039 crawford
42041 cumberland
42043 dauphin
42045 delaware
42047 elk
42049 erie
42051 fayette
42053 forest
42055 franklin
42057 fulton
42059 greene
42061 huntingdon
42063 indiana
42065 jefferson
42067 juniata
42069 lackawanna
42071 lancaster
42073 lawrence
42075 lebanon
42077 lehigh
42079 luzerne
42081 lycoming
42083 mc kean
42085 mercer
42087 mifflin
42089 monroe
42091 montgomery
42093 montour
42095 northampton
42097 northumberland

42099 perry
42101 philadelphia
42103 pike
42105 potter
42107 schuylkill
42109 snyder
42111 somerset
42113 sullivan
42115 susquehanna
42117 tioga
42119 union
42121 venango
42123 warren
42125 washington
42127 wayne
42129 westmoreland
42131 wyoming
42133 york

122

123

48499 wood
48501 yoakum
48503 young
48505 zapata
48507 zavala

48199 hardin	48299 llano	48399 runnels
48201 harris	48301 loving	48401 rusk
48203 harrison	48303 lubbock	48403 sabine
48205 hartley	48305 lynn	48405 san augustine
48207 haskell	48307 mc culloch	48407 san jacinto
48209 hays	48309 mc lennan	48409 san patricio
48211 hemphill	48311 mc mullen	48411 san saba
48213 henderson	48313 madison	48413 schleicher
48215 hidalgo	48315 marion	48415 scurry
48217 hill	48317 martin	48417 shackelford
48219 hockley	48319 mason	48419 shelby
48221 hood	48321 matagorda	48421 sherman
48223 hopkins	48323 maverick	48423 smith
48225 houston	48325 medina	48425 somervell
48227 howard	48327 menard	48427 starr
48229 hudspeth	48329 midland	48429 stephens
48231 hunt	48331 milam	48431 sterling
48233 hutchinson	48333 mills	48433 stonewall
48235 irion	48335 mitchell	48435 sutton
48237 jack	48337 montague	48437 swisher
48239 jackson	48339 montgomery	48439 tarrant
48241 jasper	48341 moore	48441 taylor
48243 jeff davis	48343 morris	48443 terrell
48245 jefferson	48345 motley	48445 terry
48247 jim hogg	48347 nacogdoches	48447 throckmorton
48249 jim wells	48349 navarro	48449 titus
48251 johnson	48351 newton	48451 tom green
48253 jones	48353 nolan	48453 travis
48255 karnes	48355 nueces	48455 trinity
48257 kaufman	48357 ochiltree	48457 tyler
48259 kendall	48359 oldham	48459 upshur
48261 kenedy	48361 orange	48461 upton
48263 kent	48363 palo pinto	48463 uvalde
48265 kerr	48365 panola	48465 val verde
48267 kimble	48367 parker	48467 van zandt
48269 king	48369 parmer	48469 victoria
48271 kinney	48371 pecos	48471 walker
48273 kleberg	48373 polk	48473 waller
48275 knox	48375 potter	48475 ward
48277 lamar	48377 presidio	48477 washington
48279 lamb	48379 rains	48479 webb
48281 lampasas	48381 randall	48481 wharton
48283 la salle	48383 reagan	48483 wheeler
48285 lavaca	48385 real	48485 wichita
48287 lee	48387 red river	48487 wilbarger
48289 leon	48389 reeves	48489 willacy
48291 liberty	48391 refugio	48491 williamson
48293 limestone	48393 roberts	48493 wilson
48295 lipscomb	48395 robertson	48495 winkler
48297 live oak	48397 rockwall	48497 wise

Code	County	Code	County	Code	County	Code	County
49000	state of utah	50000	state of vermont	51000	state of virginia	51101	king william
49001	beaver	50001	addison	51001	accomack	51103	lancaster
49003	box elder	50003	bennington	51003	albemarle	51105	lee
49005	cache	50005	caledonia	51005	alleghany	51107	loudoun
49007	carbon	50007	chittenden	51007	amelia	51109	louisa
49009	daggett	50009	essex	51009	amherst	51111	lunenberg
49011	davis	50011	franklin	51011	appomattox	51113	madison
49013	duchesne	50013	grand isle	51013	arlington	51115	mathews
49015	emery	50015	lamoille	51015	augusta	51117	mecklenburg
49017	garfield	50017	orange	51017	bath	51119	middlesex
49019	grand	50019	orleans	51019	bedford	51121	montgomery
49021	iron	50021	rutland	51021	bland	51125	nelson
49023	juab	50023	washington	51023	botetourt	51127	new kent
49025	kane	50025	windham	51025	brunswick	51131	northampton
49027	millard	50027	windsor	51027	buchanan	51133	northumberland
49029	morgan			51029	buckingham	51135	nottoway
49031	piute			51031	campbell	51137	orange
49033	rich			51033	caroline	51139	page
49035	salt lake			51035	carroll	51141	patrick
49037	san juan			51036	charles city	51143	pittsylvania
49039	sanpete			51037	charlotte	51145	powhatan
49041	sevier			51041	chesterfield	51147	prince edward
49043	summit			51043	clarke	51149	prince george
49045	tooele			51045	craig	51153	prince william
49047	uintah			51047	culpeper	51155	pulaski
49049	utah			51049	cumberland	51157	rappahannock
49051	wasatch			51051	dickenson	51159	richmond
49053	washington			51053	dinwiddie	51161	roanoke
49055	wayne			51057	essex	51163	rockbridge
49057	weber			51059	fairfax	51165	rockingham
				51061	fauquier	51167	russell
				51063	floyd	51169	scott
				51065	fluvanna	51171	shenandoah
				51067	franklin	51173	smyth
				51069	frederick	51175	southampton
				51071	giles	51177	spotsylvania
				51073	gloucester	51179	stafford
				51075	goochland	51181	surry
				51077	grayson	51183	sussex
				51079	greene	51185	tazewell
				51081	greensville	51187	warren
				51083	halifax	51191	washington
				51085	hanover	51193	westmoreland
				51087	henrico	51195	wise
				51089	henry	51197	wythe
				51091	highland	51199	york
				51093	isle of wight	51510	alexandria city
				51095	james city	51515	bedford city
				51097	king and queen	51520	bristol city
				51099	king george	51530	buena vista city

| 51540 charlottesville city |
| 51550 chesapeake city |
| 51560 clifton forge city |
| 51570 colonial heights city |
| 51580 covington city |
| 51590 danville city |
| 51595 emporia city |
| 51600 fairfax city |
| 51610 falls church city |
| 51620 franklin city |
| 51630 fredericksburg city |
| 51640 galax city |
| 51650 hampton city |
| 51660 harrisonburg city |
| 51670 hopewell city |
| 51678 lexington city |
| 51680 lynchburg city |
| 51690 martinsville city |
| 51700 newport news city |
| 51710 norfolk city |
| 51720 norton city |
| 51730 petersburg city |
| 51740 portsmouth city |
| 51750 radford city |
| 51760 richmond city |
| 51770 roanoke city |
| 51775 salem city |
| 51780 south boston city |
| 51790 staunton city |
| 51800 suffolk city |
| 51810 virginia beach city |
| 51820 waynesboro city |
| 51830 williamsburg city |
| 51840 winchester city |

| 53000 state of washington |
| 53001 adams |
| 53003 asotin |
| 53005 benton |
| 53007 chelan |
| 53009 clallam |
| 53011 clark |
| 53013 columbia |
| 53015 cowlitz |
| 53017 douglas |
| 53019 ferry |
| 53021 franklin |
| 53023 garfield |
| 53025 grant |
| 53027 grays harbor |
| 53029 island |
| 53031 jefferson |
| 53033 king |
| 53035 kitsap |
| 53037 kittitas |
| 53039 klickitat |
| 53041 lewis |
| 53043 lincoln |
| 53045 mason |
| 53047 okanogan |
| 53049 pacific |
| 53051 pend oreille |
| 53053 pierce |
| 53055 san juan |
| 53057 skagit |
| 53059 skamania |
| 53061 snohomish |
| 53063 spokane |
| 53065 stevens |
| 53067 thurston |
| 53069 wahkiakum |
| 53071 walla walla |
| 53073 whatcom |
| 53075 whitman |
| 53077 yakima |

| 54000 state of west virginia |
| 54001 barbour |
| 54003 berkeley |
| 54005 boone |
| 54007 braxton |
| 54009 brooke |
| 54011 cabell |
| 54013 calhoun |
| 54015 clay |
| 54017 doddridge |
| 54019 fayette |
| 54021 gilmer |
| 54023 grant |
| 54025 greenbrier |
| 54027 hampshire |
| 54029 hancock |
| 54031 hardy |
| 54033 harrison |
| 54035 jackson |
| 54037 jefferson |
| 54039 kanawha |
| 54041 lewis |
| 54043 lincoln |
| 54045 logan |
| 54047 mcdowell |
| 54049 marion |
| 54051 marshall |
| 54053 mason |
| 54055 mercer |
| 54057 mineral |
| 54059 mingo |
| 54061 monongalia |
| 54063 monroe |
| 54065 morgan |
| 54067 nicholas |
| 54069 ohio |
| 54071 pendleton |
| 54073 pleasants |
| 54075 pocahontas |
| 54077 preston |
| 54079 putnam |
| 54081 raleigh |
| 54083 randolph |
| 54085 ritchie |
| 54087 roane |
| 54089 summers |
| 54091 taylor |
| 54093 tucker |
| 54095 tyler |
| 54097 upshur |

| 54099 wayne |
| 54101 webster |
| 54103 wetzel |
| 54105 wirt |
| 54107 wood |
| 54109 wyoming |

Code	County	Code	County	Code	County
55000	state of wisconsin	55099	price	56000	state of wyoming
55001	adams	55101	racine	56001	albany
55003	ashland	55103	richland	56003	big horn
55005	barron	55105	rock	56005	campbell
55007	bayfield	55107	rusk	56007	carbon
55009	brown	55109	st croix	56009	converse
55011	buffalo	55111	sauk	56011	crook
55013	burnett	55113	sawyer	56013	fremont
55015	calumet	55115	sheboygan	56015	goshen
55017	chippewa	55117	taylor	56017	hot springs
55019	clark	55119	trempealeau	56019	johnson
55021	columbia	55121	vernon	56021	laramie
55023	crawford	55123	vilas	56023	lincoln
55025	dane	55125	walworth	56025	natrona
55027	dodge	55127	washburn	56027	niobrara
55029	door	55129	washington	56029	park
55031	douglas	55131	waukesha	56031	platte
55033	dunn	55133	waupaca	56033	sheridan
55035	eau claire	55135	waushara	56035	sublette
55037	florence	55139	winnebago	56037	sweetwater
55039	fond du lac	55161	wood	56039	teton
55041	forest	55901	shawano menominee	56041	uinta
55043	grant			56043	washakie
55045	green			56045	weston
55047	green lake				
55049	iowa				
55051	iron				
55053	jackson				
55055	jefferson				
55057	juneau				
55059	kenosha				
55061	kewaunee				
55063	la crosse				
55065	lafayette				
55067	langlade				
55069	lincoln				
55071	manitowoc				
55073	marathon				
55075	marinette				
55077	marquette				
55079	milwaukee				
55081	monroe				
55083	oconto				
55085	oneida				
55087	outagamie				
55089	ozaukee				
55091	pepin				
55093	pierce				
55095	polk				
55097	portage				

andrews afb

11001	district of columbia, dc
24003	anne arundel, md
24009	calvert, md
24017	charles, md
24027	howard, md
24031	montgomery, md
24033	prince georges, md
24037	st marys, md
51013	arlington, va
51059	fairfax, va
51153	prince william, va
51510	alexandria city, va
51600	fairfax city, va
51610	falls church city, va

fort belvoir

11001	district of columbia, dc
24003	anne arundel, md
24009	calvert, md
24017	charles, md
24027	howard, md
24033	prince georges, md
51013	arlington, va
51059	fairfax, va
51061	fauquier, va
51099	king george, va
51107	loudoun, va
51153	prince william, va
51179	stafford, va
51510	alexandria city, va
51600	fairfax city, va
51610	falls church city, va

fort benning

01005	barbour, al
01081	lee, al
01087	macon, al
01113	russell, al
13053	chattahoochee, ga
13145	harris, ga
13197	marion, ga
13259	stewart, ga
13263	talbot, ga
13307	webster, ga
13510	columbus, ga

fort bliss

35013	dona ana, nm
35035	otero, nm
48141	el paso, tx
48229	hudspeth, tx

bob

06053	monterey, ca
06069	san benito, ca
06087	santa cruz, ca

fort bragg

37017	bladen, nc
37051	cumberland, nc
37085	harnett, nc
37093	hoke, nc
37101	johnston, nc
37105	lee, nc
37125	moore, nc
37155	robeson, nc
37163	sampson, nc
37165	scotland, nc

fort campbell

21047	christian, ky
21141	logan, ky
21219	todd, ky
21221	trigg, ky
47021	cheatham, tn
47043	dickson, tn
47083	houston, tn
47125	montgomery, tn
47147	robertson, tn
47161	stewart, tn

carlisle barracks

42001	adams, pa
42041	cumberland, pa
42043	dauphin, pa
42055	franklin, pa
42061	huntingdon, pa
42067	juniata, pa
42071	lancaster, pa
42099	perry, pa
42133	york, pa

cerl
champaign
demo, test

17019	champaign, il

fort chaffee

05033	crawford, ar
05047	franklin, ar
05083	logan, ar
05127	scott, ar
05131	sebastian, ar
05149	yell, ar
40001	adair, ok
40061	haskell, ok
40079	le flore, ok

```
craig afb                          fort eustis (cont)
   01001  autauga, al                 51710  norfolk city, va
   01013  butler, al                  51740  portsmouth city, va
   01021  chilton, al                 51830  williamsburg city, va
   01047  dallas, al
   01085  lowndes, al              fort gordon
   01091  marengo, al                 13033  burke, ga
   01101  montgomery, al              13073  columbia, ga
   01105  perry, al                   13125  glascock, ga
   01131  wilcox, al                  13163  jefferson, ga
                                      13181  lincoln, ga
fort devens                          13189  mc duffie, ga
   25009  essex, ma                   13245  richmond, ga
   25017  middlesex, ma               13301  warren, ga
   25021  norfolk, ma                 45003  aiken, sc
   25023  plymouth, ma                45011  barnwell, sc
   25025  suffolk, ma                 45037  edgefield, sc
   25027  worcester, ma               45065  mc cormick, sc
   33011  hillsborough, nh
   33015  rockingham, nh           fort hamilton
                                      34003  bergen, nj
fort dix                             34013  essex, nj
   34001  atlantic, nj                34017  hudson, nj
   34005  burlington, nj              34023  middlesex, nj
   34007  camden, nj                  34025  monmouth, nj
   34015  gloucester, nj              34027  morris, nj
   34021  mercer, nj                  34035  somerset, nj
   34023  middlesex, nj               34039  union, nj
   34025  monmouth, nj                36005  bronx, ny
   34029  ocean, nj                   36047  kings, ny
   42017  bucks, pa                   36059  nassau, ny
   42091  montgomery, pa              36061  new york, ny
   42101  philadelphia, pa            36081  queens, ny
                                      36085  richmond, ny
fort drum                            36087  rockland, ny
   36045  jefferson, ny               36119  westchester, ny
   36049  lewis, ny
   36089  st lawrence, ny          fort harrison
                                  fort benjamin harrison
fort eustis                          18011  boone, in
   51036  charles city, va            18023  clinton, in
   51073  gloucester, va              18035  delaware, in
   51093  isle of wight, va           18057  hamilton, in
   51095  james city, va              18059  hancock, in
   51097  king and queen, va          18063  hendricks, in
   51115  mathews, va                 18065  henry, in
   51119  middlesex, va               18081  johnson, in
   51127  new kent, va                18095  madison, in
   51149  prince george, va           18097  marion, in
   51175  southampton, va             18109  morgan, in
   51181  surry, va                   18139  rush, in
   51183  sussex, va                  18145  shelby, in
   51199  york, va                    18159  tipton, in
   51550  chesapeake city, va
   51650  hampton city, va
   51700  newport news city, va
```

```
fort hood                          fort knox (cont)
   48027  bell, tx                    21123  larue, ky
   48053  burnet, tx                  21163  meade, ky
   48099  coryell, tx                 21179  nelson, ky
   48281  lampasas, tx                21215  spencer, ky
   48309  mc lennan, tx
   48491  williamson, tx           lake city ammo plant
                                      20091  johnson, ks
fort huachuca                        20209  wyandotte, ks
   04003  cochise, az                 29037  cass, mo
   04019  pima, az                    29047  clay, mo
   04023  santa cruz, az              29095  jackson, mo
                                      29107  lafayette, mo
hunter ligget military res           29165  platte, mo
   06053  monterey, ca                29177  ray, mo
   06079  san luis obispo, ca
                                   fort leavenworth
fort irwin                           20005  atchison, ks
   06027  inyo, ca                    20013  brown, ks
   06071  san bernardino, ca          20043  doniphan, ks
                                      20045  douglas, ks
fort jackson                         20087  jefferson, ks
   45003  aiken, sc                   20091  johnson, ks
   45017  calhoun, sc                 20103  leavenworth, ks
   45039  fairfield, sc               20209  wyandotte, ks
   45055  kershaw, sc                 29021  buchanan, mo
   45057  lancaster, sc               29047  clay, mo
   45061  lee, sc                     29049  clinton, mo
   45063  lexington, sc               29095  jackson, mo
   45071  newberry, sc                29165  platte, mo
   45075  orangeburg, sc
   45079  richland, sc             fort lee
   45085  sumter, sc                  51007  amelia, va
                                      51025  brunswick, va
kincheloe afb                        51036  charles city, va
   26033  chippewa, mi                51041  chesterfield, va
   26097  mackinac, mi                51053  dinwiddie, va
                                      51075  goochland, va
kirtland afb                         51085  hanover, va
   35001  bernalillo, nm              51087  henrico, va
   35043  sandoval, nm                51095  james city, va
   35049  santa fe, nm                51127  new kent, va
   35057  torrance, nm                51135  nottoway, va
   35061  valencia, nm                51145  powhatan, va
                                      51149  prince george, va
fort knox                            51175  southampton, va
   18019  clark, in                   51181  surry, va
   18025  crawford, in                51183  sussex, va
   18043  floyd, in
   18061  harrison, in             fort leonard wood
   18123  perry, in                fort wood
   21027  breckinridge, ky            29029  camden, mo
   21029  bullitt, ky                 29065  dent, mo
   21085  grayson, ky                 29105  laclede, mo
   21093  hardin, ky                  29125  maries, mo
   21111  jefferson, ky               29131  miller, mo
```

fort leonard wood (cont)
```
   29169  pulaski, mo
   29161  phelps, mo
   29215  texas, mo
   29229  wright, mo
```

fort lewis
```
   53027  grays harbor, wa
   53033  king, wa
   53035  kitsap, wa
   53041  lewis, wa
   53045  mason, wa
   53053  pierce, wa
   53067  thurston, wa
```

long island
```
   36059  nassau, ny
   36081  queens, ny
   36103  suffolk, ny
```

fort mcclellan
```
   01015  calhoun, al
   01019  cherokee, al
   01027  clay, al
   01029  cleburne, al
   01055  etowah, al
   01111  randolph, al
   01115  st clair, al
   01121  talladega, al
   13045  carroll, ga
   13143  haralson, ga
   13233  polk, ga
```

fort mcpherson
```
   13057  cherokee, ga
   13063  clayton, ga
   13067  cobb, ga
   13089  de kalb, ga
   13097  douglas, ga
   13121  fulton, ga
   13135  gwinnett, ga
   13151  henry, ga
   13247  rockdale, ga
```

fort meade
```
   11001  district of columbia, dc
   24003  anne arundel, md
   24005  baltimore, md
   24009  calvert, md
   24013  carroll, md
   24017  charles, md
   24021  frederick, md
   24025  harford, md
   24027  howard, md
   24029  kent, md
   24031  montgomery, md
```

fort meade (cont)
```
   24033  prince georges, md
   24035  queen annes, md
   24041  talbot, md
   24510  baltimore city, md
   51013  arlington, va
   51059  fairfax, va
   51107  loudoun, va
   51510  alexandria city, va
   51600  fairfax city, va
   51610  falls church city, va
```

memphis defense depot
```
   05035  crittenden, ar
   28033  de soto, ms
   47157  shelby, tn
   47167  tipton, tn
```

fort monroe
```
   37053  currituck, nc
   51073  gloucester, va
   51095  james city, va
   51199  york, va
   51550  chesapeake city, va
   51650  hampton city, va
   51700  newport news city, va
   51710  norfolk city, va
   51740  portsmouth city, va
   51810  virginia beach city, va
   51830  williamsburg city, va
```

presidio of monterey
monterey presidio
```
   06053  monterey, ca
   06069  san benito, ca
   06087  santa cruz, ca
```

fort myer
```
   11001  district of columbia, dc
   24003  anne arundel, md
   24009  calvert, md
   24017  charles, md
   24031  montgomery, md
   24033  prince georges, md
   51013  arlington, va
   51059  fairfax, va
   51107  loudoun, va
   51153  prince william, va
   51510  alexandria city, va
   51600  fairfax city, va
   51610  falls church city, va
```

natick lab
```
   25009  essex, ma
   25017  middlesex, ma
   25021  norfolk, ma
```

```
natick lab (cont)                       fort riley
    25025  suffolk, ma                      20027  clay, ks
    25027  worcester, ma                    20041  dickinson, ks
    33011  hillsborough, nh                 20061  geary, ks
                                            20127  morris, ks
ogden defense depot                        20143  ottawa, ks
    49003  box elder, ut                    20149  pottawatomie, ks
    49005  cache, ut                        20161  riley, ks
    49011  davis, ut                        20197  wabaunsee, ks
    49029  morgan, ut
    49035  salt lake, ut                rio vista storage area
    49043  summit, ut                       06001  alameda, ca
    49057  weber, ut                        06013  contra costa, ca
                                            06067  sacramento, ca
fort ord                                    06077  san joaquin, ca
    06053  monterey, ca                     06095  solano, ca
    06069  san benito, ca                   06113  yolo, ca
    06085  santa clara, ca
    06087  santa cruz, ca               fort ritchie
                                            24013  carroll, md
fort polk                                   24021  frederick, md
    22003  allen, la                        24043  washington, md
    22011  beauregard, la                   42001  adams, pa
    22069  natchitoches, la                 42041  cumberland, pa
    22079  rapides, la                      42055  franklin, pa
    22085  sabine, la                       42057  fulton, pa
    22115  vernon, la                       42133  york, pa
    48351  newton, tx                       54003  berkeley, wv
    48403  sabine, tx                       54037  jefferson, wv
                                            54065  morgan, wv
red river army depot
red river depot                         riverbank army ammo plant
    05057  hempstead, ar                    06009  calaveras, ca
    05061  howard, ar                       06047  merced, ca
    05073  lafayette, ar                    06077  san joaquin, ca
    05081  little river, ar                 06099  stanislaus, ca
    05091  miller, ar                       06109  tuolumne, ca
    05133  sevier, ar
    48037  bowie, tx                    camp roberts
    48067  cass, tx                         06019  fresno, ca
                                            06053  monterey, ca
richards gebaur afb                         06079  san luis obispo, ca
richards-gebaur afb
    20045  douglas, ks                  rock island arsenal
    20059  franklin, ks                     17073  henry, il
    20091  johnson, ks                      17095  knox, il
    20103  leavenworth, ks                  17131  mercer, il
    20121  miami, ks                        17161  rock island, il
    20209  wyandotte, ks                    17195  whiteside, il
    29013  bates, mo                        19031  cedar, ia
    29037  cass, mo                         19045  clinton, ia
    29047  clay, mo                         19139  muscatine, ia
    29095  jackson, mo                      19163  scott, ia
    29101  johnson, mo
    29107  lafayette, mo
    29165  platte, mo
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rocky mountain arsenal
     08001 adams, co
     08005 arapahoe, co
     08013 boulder, co
     08019 clear creek, co
     08031 denver, co
     08035 douglas, co
     08039 elbert, co
     08047 gilpin, co
     08059 jefferson, co
     08123 weld, co

fort rodman
     25001 barnstable, ma
     25005 bristol, ma
     25007 dukes, ma
     25023 plymouth, ma
     44001 bristol, ri
     44003 kent, ri
     44005 newport, ri
     44007 providence, ri
     44009 washington, ri

fort rucker
     01005 barbour, al
     01031 coffee, al
     01039 covington, al
     01041 crenshaw, al
     01045 dale, al
     01061 geneva, al
     01067 henry, al
     01069 houston, al
     01109 pike, al
     12059 holmes, fl
     12063 jackson, fl

sacramento army depot
     06005 amador, ca
     06017 el dorado, ca
     06061 placer, ca
     06067 sacramento, ca
     06077 san joaquin, ca
     06095 solano, ca
     06101 sutter, ca
     06113 yolo, ca

saginaw army aircraft plant
     48113 dallas, tx
     48121 denton, tx
     48139 ellis, tx
     48221 hood, tx
     48251 johnson, tx
     48367 parker, tx
     48439 tarrant, tx
     48497 wise, tx

st louis army ammo plant
st. louis army ammo plant
     17013 calhoun, il
     17027 clinton, il
     17083 jersey, il
     17117 macoupin, il
     17119 madison, il
     17133 monroe, il
     17163 st clair, il
     29071 franklin, mo
     29099 jefferson, mo
     29183 st charles, mo
     29189 st louis, mo
     29510 st louis city, mo

fort sam houston
fort houston
     48013 atascosa, tx
     48019 bandera, tx
     48029 bexar, tx
     48091 comal, tx
     48187 guadalupe, tx
     48259 kendall, tx
     48325 medina, tx
     48493 wilson, tx

camp san luis obispo
camp luis obispo
     06079 san luis obispo, ca
     06083 santa barbara, ca

savanna army depot
     17015 carroll, il
     17027 clinton, il
     17077 jackson, il
     17085 jo daviess, il
     17141 ogle, il
     17161 rock island, il
     17177 stephenson, il
     17195 whiteside, il

schofield barracks
     15001 hawaii, hi
     15003 honolulu, hi
     15007 kauai, hi
     15009 maui, hi

fort scott
     06001 alameda, ca
     06013 contra costa, ca
     06041 marin, ca
     06055 napa, ca
     06075 san francisco, ca
     06081 san mateo, ca
     06085 santa clara, ca

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fort scott (cont)                      fort sill (cont)
    06095  solano, ca                      40075  kiowa, ok
    06097  sonoma, ca                      40137  stephens, ok
                                           40141  tillman, ok
scott afb
    17005  bond, il                    sioux army depot
    17027  clinton, il                     08075  logan, co
    17119  madison, il                     08115  sedgwick, co
    17133  monroe, il                      31033  cheyenne, ne
    17145  perry, il                       31049  deuel, ne
    17157  randolph, il                    31069  garden, ne
    17163  st clair, il                    31105  kimball, ne
    17189  washington, il                  31123  morrill, ne
    29099  jefferson, mo
    29183  st charles, mo             camp stanley
    29189  st louis, mo                   48013  atascosa, tx
    29510  st louis city, mo              48019  bandera, tx
                                          48029  bexar, tx
scranton army ammo plant                  48091  comal, tx
    42025  carbon, pa                     48187  guadalupe, tx
    42069  lackawanna, pa                 48259  kendall, tx
    42079  luzerne, pa                    48325  medina, tx
    42089  monroe, pa                     48493  wilson, tx
    42103  pike, pa
    42115  susquehanna, pa            fort stewart
    42127  wayne, pa                  fort steward
    42131  wyoming, pa                    13029  bryan, ga
                                          13031  bulloch, ga
seneca army depot                         13051  chatham, ga
    36011  cayuga, ny                     13103  effingham, ga
    36067  onondaga, ny                   13109  evans, ga
    36069  ontario, ny                    13179  liberty, ga
    36097  schuyler, ny                   13183  long, ga
    36099  seneca, ny                     13191  mc intosh, ga
    36101  steuben, ny                    13267  tattnall, ga
    36109  tompkins, ny                   45013  beaufort, sc
    36117  wayne, ny                      45053  jasper, sc
    36123  yates, ny
                                      fort story
sharpe army depot                     fort storey
    06001  alameda, ca                    37053  currituck, nc
    06009  calaveras, ca                  51093  isle of wight, va
    06013  contra costa, ca               51550  chesapeake city, va
    06077  san joaquin, ca                51650  hampton city, va
    06099  stanislaus, ca                 51700  newport news city, va
                                          51740  portsmouth city, va
sierra army depot                         51810  virginia beach city, va
    06035  lassen, ca
    06063  plumas, ca                 sunflower ammo plant
    32031  washoe, nv                     20045  douglas, ks
                                          20059  franklin, ks
fort sill                                 20087  jefferson, ks
    40015  caddo, ok                      20091  johnson, ks
    40031  comanche, ok                   20103  leavenworth, ks
    40033  cotton, ok                     20121  miami, ks
    40051  grady, ok                      20139  osage, ks
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sunflower ammo plant (cont)         webb afb (cont)
    20177  shawnee, ks                  48335  mitchell, tx
    20209  wyandotte, ks                48415  scurry, tx
                                        48431  sterling, tx
tarheel army missile plant
    37001  alamance, nc             west point military res
    37033  caswell, nc              usma
    37037  chatham, nc                  09001  fairfield, ct
    37063  durham, nc                   34003  bergen, nj
    37081  guilford, nc                 34031  passaic, nj
    37135  orange, nc                   34037  sussex, nj
    37145  person, nc                   36027  dutchess, ny
    37151  randolph, nc                 36071  orange, ny
    37157  rockingham, nc               36079  putnam, ny
                                        36087  rockland, ny
fort tilden                             36105  sullivan, ny
    34003  bergen, nj                   36111  ulster, ny
    34013  essex, nj                    36119  westchester, ny
    34017  hudson, nj
    34023  middlesex, nj            white sands missile range
    34025  monmouth, nj             white sands
    34031  passaic, nj                  35013  dona ana, nm
    34039  union, nj                    35027  lincoln, nm
    36005  bronx, ny                    35035  otero, nm
    36047  kings, ny                    35051  sierra, nm
    36059  nassau, ny                   35053  socorro, nm
    36061  new york, ny
    36081  queens, ny               fort wolters
    36085  richmond, ny                 48143  erath, tx
    36103  suffolk, ny                  48221  hood, tx
    36119  westchester, ny              48237  jack, tx
                                        48363  palo pinto, tx
tyndall afb                             48367  parker, tx
    12005  bay, fl                      48429  stephens, tx
    12013  calhoun, fl                  48497  wise, tx
    12045  gulf, fl                     48503  young, tx
    12077  liberty, fl
    12133  washington, fl           wright patterson afb
                                     wright-patterson afb
washington dc                           39017  butler, oh
district of columbia                    39021  champaign, oh
    11000  district of columbia         39023  clark, oh
                                        39027  clinton, oh
watervliet arsenal                      39037  darke, oh
    36001  albany, ny                   39047  fayette, oh
    36083  rensselaer, ny               39057  greene, oh
    36091  saratoga, ny                 39097  madison, oh
    36093  schenectady, ny              39109  miami, oh
                                        39113  montgomery, oh
webb afb                                39135  preble, oh
    48033  borden, tx                   39149  shelby, oh
    48115  dawson, tx                   39165  warren, oh
    48173  glasscock, tx
    48227  howard, tx               yuma proving grounds
    48317  martin, tx                   04027  yuma, az
    48329  midland, tx                  06025  imperial, ca
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aberdeen sd bea
b148 bea

46013	brown, sd	
46025	clark, sd	
46029	codington, sd	
46037	day, sd	
46039	deuel, sd	
46045	edmunds, sd	
46049	faulk, sd	
46051	grant, sd	
46057	hamlin, sd	
46089	mc pherson, sd	
46091	marshall, sd	
46109	roberts, sd	
46115	spink, sd	

abilene tx bea
b127 bea

48049	brown, tx	
48059	callahan, tx	
48083	coleman, tx	
48093	comanche, tx	
48133	eastland, tx	
48151	fisher, tx	
48207	haskell, tx	
48253	jones, tx	
48263	kent, tx	
48275	knox, tx	
48335	mitchell, tx	
48353	nolan, tx	
48415	scurry, tx	
48417	shackelford, tx	
48429	stephens, tx	
48433	stonewall, tx	
48441	taylor, tx	
48447	throckmorton, tx	

albany ga bea
b040 bea

13007	baker, ga	
13017	ben hill, ga	
13019	berrien, ga	
13027	brooks, ga	
13037	calhoun, ga	
13061	clay, ga	
13065	clinch, ga	
13071	colquitt, ga	
13075	cook, ga	
13087	decatur, ga	
13095	dougherty, ga	
13099	early, ga	
13101	echols, ga	
13131	grady, ga	
13155	irwin, ga	
13173	lanier, ga	
13177	lee, ga	

albany ga bea (cont)

13185	lowndes, ga	
13201	miller, ga	
13205	mitchell, ga	
13243	randolph, ga	
13253	seminole, ga	
13273	terrell, ga	
13275	thomas, ga	
13277	tift, ga	
13287	turner, ga	
13321	worth, ga	

albany ny bea
schenectady ny bea
troy ny bea
b007 bea

36001	albany, ny	
36019	clinton, ny	
36021	columbia, ny	
36031	essex, ny	
36035	fulton, ny	
36039	greene, ny	
36041	hamilton, ny	
36057	montgomery, ny	
36083	rensselaer, ny	
36091	saratoga, ny	
36093	schenectady, ny	
36095	schoharie, ny	
36113	warren, ny	
36115	washington, ny	
50003	bennington, vt	

albuquerque nm bea
b160 bea

35001	bernalillo, nm	
35003	catron, nm	
35007	colfax, nm	
35011	de baca, nm	
35019	guadalupe, nm	
35027	lincoln, nm	
35028	los alamos, nm	
35031	mc kinley, nm	
35033	mora, nm	
35039	rio arriba, nm	
35043	sandoval, nm	
35045	san juan, nm	
35047	san miguel, nm	
35049	santa fe, nm	
35053	socorro, nm	
35055	taos, nm	
35057	torrance, nm	
35061	valencia, nm	

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amarillo tx bea                        anchorage ak bea (cont)
b135 bea                                   02170  matanuska susitna, ak
    35009  curry, nm                       02180  nome, ak
    35021  harding, nm                     02190  outer ketchikan, ak
    35037  quay, nm                        02200  prince of wales, ak
    35059  union, nm                       02210  seward, ak
    40007  beaver, ok                      02220  sitka, ak
    40025  cimarron, ok                    02230  skagway yakutat, ak
    40139  texas, ok                       02240  southeast fairbanks, ak
    48011  armstrong, tx                   02250  upper yukon, ak
    48045  brisc ,. tx                     02260  valdez chitina whittier, ak
    48065  carso... tx                     02270  wade hampton, ak
    48069  castro, tx                      02280  wrangell petersburg, ak
    48075  childress, tx                   02290  yukon koyukuk, ak
    48087  collingsworth, tx
    48111  dallam, tx                  anderson in bea
    48117  deaf smith, tx              muncie in bea
    48129  donley, tx                  b078 bea
    48179  gray, tx                        18009  blackford, in
    48191  hall, tx                        18035  delaware, in
    48195  hansford, tx                    18041  fayette, in
    48205  hartley, tx                     18065  henry, in
    48211  hemphill, tx                    18075  jay, in
    48233  hutchinson, tx                  18095  madison, in
    48295  lipscomb, tx                    18135  randolph, in
    48341  moore, tx                       18161  union, in
    48357  ochiltree, tx                   18177  wayne, in
    48359  oldham, tx
    48369  parmer, tx                  appleton wi bea
    48375  potter, tx                  green bay wi bea
    48381  randall, tx                 oshkosh wi bea
    48393  roberts, tx                 b094 bea
    48421  sherman, tx                     26003  alger, mi
    48437  swisher, tx                     26013  baraga, mi
    48483  wheeler, tx                     26041  delta, mi
                                           26043  dickinson, mi
anchorage ak bea                           26061  houghton, mi
anchorage bea                              26071  iron, mi
alaska bea                                 26083  keweenaw, mi
b182 bea                                   26103  marquette, mi
    02010  aleutian islands, ak            26109  menominee, mi
    02020  anchorage, ak                   26153  schoolcraft, mi
    02030  angoon, ak                      55009  brown, wi
    02040  barrow, ak                      55015  calumet, wi
    02050  bethel, ak                      55029  door, wi
    02060  bristol bay borough, ak         55037  florence, wi
    02070  bristol bay division, ak        55039  fond du lac, wi
    02080  cordova mc carthy, ak           55041  forest, wi
    02090  fairbanks, ak                   55047  green lake, wi
    02100  haines, ak                      55061  kewaunee, wi
    02110  juneau, ak                      55071  manitowoc, wi
    02120  kenai cook inlet, ak            55075  marinette, wi
    02130  ketchikan, ak                   55083  oconto, wi
    02140  kobuk, ak                       55087  outagamie, wi
    02150  kodiak, ak                      55135  waupaca, wi
    02160  kuskokwim, ak                   55137  waushara, wi
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appleton wi bea (cont)              atlanta ga bea (cont)
    55139  winnebago, wi               13171  lamar, ga
    55901  shawano menominee, wi       13187  lumpkin, ga
                                       13195  madison, ga
asheville nc bea                       13211  morgan, ga
b030 bea                               13217  newton, ga
    37011  avery, nc                   13219  oconee, ga
    37021  buncombe, nc                13221  oglethorpe, ga
    37039  cherokee, nc                13223  paulding, ga
    37043  clay, nc                    13227  pickens, ga
    37075  graham, nc                  13231  pike, ga
    37087  haywood, nc                 13233  polk, ga
    37089  henderson, nc               13241  rabun, ga
    37099  jackson, nc                 13247  rockdale, ga
    37111  mc dowell, nc               13255  spalding, ga
    37113  macon, nc                   13257  stephens, ga
    37115  madison, nc                 13281  towns, ga
    37121  mitchell, nc                13291  union, ga
    37173  swain, nc                   13293  upson, ga
    37175  transylvania, nc            13297  walton, ga
    37199  yancey, nc                  13311  white, ga

atlanta ga bea                      augusta ga bea
b036 bea                            b035 bea
    13011  banks, ga                   13033  burke, ga
    13013  barrow, ga                  13073  columbia, ga
    13015  bartow, ga                  13107  emanuel, ga
    13035  butts, ga                   13125  glascock, ga
    13045  carroll, ga                 13163  jefferson, ga
    13057  cherokee, ga                13165  jenkins, ga
    13059  clarke, ga                  13181  lincoln, ga
    13063  clayton, ga                 13189  mc duffie, ga
    13067  cobb, ga                    13245  richmond, ga
    13077  coweta, ga                  13265  taliaferro, ga
    13085  dawson, ga                  13301  warren, ga
    13089  de kalb, ga                 13317  wilkes, ga
    13097  douglas, ga                 45003  aiken, sc
    13105  elbert, ga                  45005  allendale, sc
    13111  fannin, ga                  45009  bamberg, sc
    13113  fayette, ga                 45011  barnwell, sc
    13115  floyd, ga                   45037  edgefield, sc
    13117  forsyth, ga                 45065  mc cormick, sc
    13119  franklin, ga
    13121  fulton, ga               austin tx bea
    13123  gilmer, ga               b123 bea
    13129  gordon, ga                  48021  bastrop, tx
    13133  greene, ga                  48031  blanco, tx
    13135  gwinnett, ga                48053  burnet, tx
    13137  habersham, ga               48055  caldwell, tx
    13139  hall, ga                    48209  hays, tx
    13143  haralson, ga                48287  lee, tx
    13147  hart, ga                    48299  llano, tx
    13149  heard, ga                   48453  travis, tx
    13151  henry, ga                   48491  williamson, tx
    13157  jackson, ga
    13159  jasper, ga
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baltimore md bea
baltimore bea
b019 bea
    24003   anne arundel, md
    24005   baltimore, md
    24011   caroline, md
    24013   carroll, md
    24019   dorchester, md
    24025   harford, md
    24027   howard, md
    24029   kent, md
    24035   queen annes, md
    24039   somerset, md
    24041   talbot, md
    24045   wicomico, md
    24047   worcester, md
    24510   baltimore city, md
    51001   accomack, va
    51131   northampton, va

bangor me bea
b001 bea
    23003   aroostook, me
    23009   hancock, me
    23019   penobscot, me
    23021   piscataquis, me
    23027   waldo, me
    23029   washington, me

baton rouge la bea
baton rouge bea
b114 bea
    22005   ascension, la
    22029   concordia, la
    22033   east baton rouge, la
    22037   east feliciana, la
    22047   iberville, la
    22063   livingston, la
    22077   pointe coupee, la
    22091   st helena, la
    22121   west baton rouge, la
    22125   west feliciana, la
    28001   adams, ms
    28005   amite, ms
    28157   wilkinson, ms

beaumont tx bea
port arthur tx bea
b121 bea
    48199   hardin, tx
    48241   jasper, tx
    48245   jefferson, tx
    48351   newton, tx
    48361   orange, tx
    48403   sabine, tx
    48457   tyler, tx

billings mt bea
b155 bea
    30003   big horn, mt
    30009   carbon, mt
    30011   carter, mt
    30017   custer, mt
    30021   dawson, mt
    30025   fallon, mt
    30031   gallatin, mt
    30033   garfield, mt
    30037   golden valley, mt
    30055   mc cone, mt
    30065   musselshell, mt
    30075   powder river, mt
    30079   prairie, mt
    30087   rosebud, mt
    30095   stillwater, mt
    30097   sweet grass, mt
    30103   treasure, mt
    30109   wibaux, mt
    30111   yellowstone, mt
    30901   park, mt
    56003   big horn, wy
    56017   hot springs, wy
    56029   park, wy
    56033   sheridan, wy
    56043   washakie, wy

binghamton ny bea
elmira ny bea
b011 bea
    36007   broome, ny
    36015   chemung, ny
    36017   chenango, ny
    36025   delaware, ny
    36077   otsego, ny
    36097   schuyler, ny
    36101   steuben, ny
    36107   tioga, ny
    36109   tompkins, ny
    42015   bradford, pa
    42115   susquehanna, pa
    42117   tioga, pa

birmingham al bea
b049 bea
    01007   bibb, al
    01009   blount, al
    01015   calhoun, al
    01019   cherokee, al
    01021   chilton, al
    01027   clay, al
    01029   cleburne, al
    01043   cullman, al
    01055   etowah, al
    01057   fayette, al

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birmingham al bea (cont)          boston ma bea
   01063  greene, al              boston bea
   01065  hale, al                b004 bea
   01073  jefferson, al              25001  barnstable, ma
   01075  lamar, al                  25005  bristol, ma
   01093  marion, al                 25007  dukes, ma
   01107  pickens, al                25009  essex, ma
   01111  randolph, al               25017  middlesex, ma
   01115  st clair, al               25019  nantucket, ma
   01117  shelby, al                 25021  norfolk, ma
   01119  sumter, al                 25023  plymouth, ma
   01121  talladega, al              25025  suffolk, ma
   01125  tuscaloosa, al             25027  worcester, ma
   01127  walker, al                 33001  belknap, nh
   01133  winston, al                33003  carroll, nh
                                     33011  hillsborough, nh
bismarck nd bea                      33013  merrimack, nh
bismark nd bea                       33015  rockingham, nh
b151 bea                             33017  strafford, nh
   38001  adams, nd
   38007  billings, nd           brownsville tx bea
   38011  bowman, nd             mcallen tx bea
   38015  burleigh, nd           harlingen tx bea
   38025  dunn, nd               b131 bea
   38029  emmons, nd                48061  cameron, tx
   38033  golden valley, nd         48215  hidalgo, tx
   38037  grant, nd                  48427  starr, tx
   38041  hettinger, nd             48489  willacy, tx
   38043  kidder, nd
   38057  mercer, nd             buffalo ny bea
   38059  morton, nd             b010 bea
   38065  oliver, nd                36003  allegany, ny
   38083  sheridan, nd              36009  cattaraugus, ny
   38085  sioux, nd                 36013  chautauqua, ny
   38087  slope, nd                 36029  erie, ny
   38089  stark, nd                 36063  niagara, ny
   38103  wells, nd                 36121  wyoming, ny
                                     42083  mc kean, pa
boise city id bea                    42105  potter, pa
boise id bea
b167 bea                           burlington vt bea
   16001  ada, id                b003 bea
   16003  adams, id                 33007  coos, nh
   16015  boise, id                 33009  grafton, nh
   16027  canyon, id                33019  sullivan, nh
   16039  elmore, id                50001  addison, vt
   16045  gem, id                   50005  caledonia, vt
   16073  owyhee, id                50007  chittenden, vt
   16075  payette, id               50009  essex, vt
   16085  valley, id                50011  franklin, vt
   16087  washington, id            50013  grand isle, vt
   41025  harney, or                50015  lamoille, vt
   41045  malheur, or               50017  orange, vt
                                     50019  orleans, vt
                                     50021  rutland, vt
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burlington vt bea (cont)
    50023 washington, vt
    50027 windsor, vt

cedar rapids ia bea
cedar rapids bea
b100 bea
    19011 benton, ia
    19031 cedar, ia
    19095 iowa, ia
    19103 johnson, ia
    19105 jones, ia
    19113 linn, ia
    19183 washington, ia

champaign il bea
urbana il bea
b084 bea
    17019 champaign, il
    17029 coles, il
    17035 cumberland, il
    17041 douglas, il
    17045 edgar, il
    17053 ford, il
    17147 piatt, il
    17183 vermilion, il

charleston sc bea
north charleston sc bea
b034 bea
    45015 berkeley, sc
    45019 charleston, sc
    45029 colleton, sc
    45035 dorchester, sc

charleston wv bea
b060 bea
    54005 boone, wv
    54007 braxton, wv
    54013 calhoun, wv
    54015 clay, wv
    54019 fayette, wv
    54021 gilmer, wv
    54025 greenbrier, wv
    54035 jackson, wv
    54039 kanawha, wv
    54063 monroe, wv
    54067 nicholas, wv
    54075 pocahontas, wv
    54079 putnam, wv
    54081 raleigh, wv
    54087 roane, wv
    54089 summers, wv
    54101 webster, wv
    54109 wyoming, wv

charlotte nc bea
b029 bea
    37003 alexander, nc
    37007 anson, nc
    37023 burke, nc
    37025 cabarrus, nc
    37027 caldwell, nc
    37035 catawba, nc
    37045 cleveland, nc
    37071 gaston, nc
    37097 iredell, nc
    37109 lincoln, nc
    37119 mecklenburg, nc
    37159 rowan, nc
    37161 rutherford, nc
    37167 stanly, nc
    37179 union, nc
    45023 chester, sc
    45057 lancaster, sc
    45091 york, sc

chattanooga tn bea
chattanooga bea
b051 bea
    01049 de kalb, al
    01071 jackson, al
    13047 catoosa, ga
    13055 chattooga, ga
    13083 dade, ga
    13213 murray, ga
    13295 walker, ga
    13313 whitfield, ga
    47007 bledsoe, tn
    47011 bradley, tn
    47061 grundy, tn
    47065 hamilton, tn
    47107 mc minn, tn
    47115 marion, tn
    47121 meigs, tn
    47123 monroe, tn
    47139 polk, tn
    47143 rhea, tn
    47153 sequatchie, tn

cheyenne wy bea
casper wy bea
b156 bea
    08057 jackson, co
    56001 albany, wy
    56005 campbell, wy
    56007 carbon, wy
    56009 converse, wy
    56013 fremont, wy
    56019 johnson, wy
    56021 laramie, wy

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cheyenne wy bea (cont)                cincinnati oh bea (cont)
    56025   natrona, wy                   39027   clinton, oh
    56031   platte, wy                    39061   hamilton, oh
                                          39071   highland, oh
chicago il bea                            39165   warren, oh
chicago bea
b083 bea                              cleveland oh bea
    17011   bureau, il                b065 bea
    17031   cook, il                      39005   ashland, oh
    17037   de kalb, il                   39007   ashtabula, oh
    17043   du page, il                   39019   carroll, oh
    17063   grundy, il                    39031   coshocton, oh
    17075   iroquois, il                  39033   crawford, oh
    17089   kane, il                      39035   cuyahoga, oh
    17091   kankakee, il                  39043   erie, oh
    17093   kendall, il                   39055   geauga, oh
    17097   lake, il                      39075   holmes, oh
    17099   la salle, il                  39077   huron, oh
    17105   livingston, il                39085   lake, oh
    17111   mc henry, il                  39093   lorain, oh
    17155   putnam, il                    39103   medina, oh
    17197   will, il                      39133   portage, oh
    18073   jasper, in                    39139   richland, oh
    18089   lake, in                      39151   stark, oh
    18091   la porte, in                  39153   summit, oh
    18111   newton, in                    39157   tuscarawas, oh
    18127   porter, in                    39169   wayne, oh
    18131   pulaski, in
    18149   starke, in                colorado springs co bea
    55059   kenosha, wi               pueblo co bea
                                      b158 bea
cincinnati oh bea                         08003   alamosa, co
cincinnati bea                            08009   baca, co
b067 bea                                  08011   bent, co
    18029   dearborn, in                  08015   chaffee, co
    18047   franklin, in                  08021   conejos, co
    18115   ohio, in                      08023   costilla, co
    18137   ripley, in                    08025   crowley, co
    18155   switzerland, in               08027   custer, co
    21015   boone, ky                     08041   el paso, co
    21023   bracken, ky                   08043   fremont, co
    21037   campbell, ky                  08055   huerfano, co
    21041   carroll, ky                   08061   kiowa, co
    21069   fleming, ky                   08065   lake, co
    21077   gallatin, ky                  08071   las animas, co
    21081   grant, ky                     08073   lincoln, co
    21117   kenton, ky                    08079   mineral, co
    21135   lewis, ky                     08089   otero, co
    21161   mason, ky                     08099   prowers, co
    21187   owen, ky                      08101   pueblo, co
    21191   pendleton, ky                 08105   rio grande, co
    21201   robertson, ky                 08109   saguache, co
    39001   adams, oh                     08119   teller, co
    39015   brown, oh
    39017   butler, oh
    39025   clermont, oh
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columbia mo bea                          columbus ga bea (cont)
b106 bea                                     13307   webster, ga
    29001   adair, mo                        13510   columbus, ga
    29007   audrain, mo
    29019   boone, mo                    columbus oh bea
    29027   callaway, mo                 b066 bea
    29029   camden, mo                       39009   athens, oh
    29041   chariton, mo                     39041   delaware, oh
    29051   cole, mo                         39045   fairfield, oh
    29053   cooper, mo                       39047   fayette, oh
    29089   howard, mo                       39049   franklin, oh
    29103   knox, mo                         39059   guernsey, oh
    29115   linn, mo                         39073   hocking, oh
    29121   macon, mo                        39079   jackson, oh
    29131   miller, mo                       39083   knox, oh
    29135   moniteau, mo                     39089   licking, oh
    29137   monroe, mo                       39097   madison, oh
    29141   morgan, mo                       39101   marion, oh
    29151   osage, mo                        39105   meigs, oh
    29171   putnam, mo                       39115   morgan, oh
    29175   randolph, mo                     39117   morrow, oh
    29197   schuyler, mo                     39119   muskingum, oh
    29199   scotland, mo                     39121   noble, oh
    29205   shelby, mo                       39127   perry, oh
    29211   sullivan, mo                     39129   pickaway, oh
                                             39131   pike, oh
columbia sc bea                              39141   ross, oh
b032 bea                                     39145   scioto, oh
    45017   calhoun, sc                      39159   union, oh
    45027   clarendon, sc                    39163   vinton, oh
    45039   fairfield, sc
    45055   kershaw, sc                  corpus christi tx bea
    45061   lee, sc                      corpus christi bea
    45063   lexington, sc               b130 bea
    45071   newberry, sc                     48007   aransas, tx
    45075   orangeburg, sc                   48025   bee, tx
    45079   richland, sc                     48047   brooks, tx
    45081   saluda, sc                       48131   duval, tx
    45085   sumter, sc                       48249   jim wells, tx
                                             48261   kenedy, tx
columbus ga bea                              48273   kleberg, tx
b037 bea                                     48297   live oak, tx
    01017   chambers, al                     48355   nueces, tx
    01081   lee, al                          48391   refugio, tx
    01113   russell, al                      48409   san patricio, tx
    13053   chattahoochee, ga
    13145   harris, ga                   dallas tx bea
    13197   marion, ga                   ft worth tx bea
    13199   meriwether, ga               fort worth tx bea
    13239   quitman, ga                  ft worth bea
    13249   schley, ga                   b125 bea
    13259   stewart, ga                      40013   bryan, ok
    13261   sumter, ga                       48085   collin, tx
    13263   talbot, ga                       48097   cooke, tx
    13285   troup, ga                        48113   dallas, tx
                                             48119   delta, tx
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dallas tx bea (cont)              denver co bea
    48121  denton, tx             b157 bea
    48139  ellis, tx                  08001  adams, co
    48143  erath, tx                  08005  arapahoe, co
    48147  fannin, tx                 08013  boulder, co
    48159  franklin, tx               08017  cheyenne, co
    48181  grayson, tx                08019  clear creek, co
    48221  hood, tx                   08031  denver, co
    48223  hopkins, tx                08035  douglas, co
    48231  hunt, tx                   08039  elbert, co
    48237  jack, tx                   08047  gilpin, co
    48251  johnson, tx                08049  grand, co
    48257  kaufman, tx                08059  jefferson, co
    48337  montague, tx               08063  kit carson, co
    48349  navarro, tx                08069  larimer, co
    48363  palo pinto, tx             08075  logan, co
    48367  parker, tx                 08087  morgan, co
    48379  rains, tx                  08093  park, co
    48397  rockwall, tx               08095  phillips, co
    48425  somervell, tx              08115  sedgwick, co
    48439  tarrant, tx                08117  summit, co
    48467  van zandt, tx              08121  washington, co
    48497  wise, tx                   08123  weld, co
                                      08125  yuma, co
davenport ia bea
rock island il bea                des moines ia bea
moline il bea                     des moines bea
b099 bea                          b104 bea
    17015  carroll, il                19001  adair, ia
    17067  hancock, il                19007  appanoose, ia
    17071  henderson, il              19015  boone, ia
    17073  henry, il                  19039  clarke, ia
    17131  mercer, il                 19049  dallas, ia
    17161  rock island, il            19051  davis, ia
    17195  whiteside, il              19053  decatur, ia
    19045  clinton, ia                19077  guthrie, ia
    19057  des moines, ia             19099  jasper, ia
    19087  henry, ia                  19101  jefferson, ia
    19111  lee, ia                    19107  keokuk, ia
    19115  louisa, ia                 19117  lucas, ia
    19139  muscatine, ia              19121  madison, ia
    19163  scott, ia                  19123  mahaska, ia
    29045  clark, mo                  19125  marion, ia
                                      19127  marshall, ia
dayton oh bea                         19135  monroe, ia
b068 bea                              19153  polk, ia
    39021  champaign, oh              19157  poweshiek, ia
    39023  clark, oh                  19159  ringgold, ia
    39037  darke, oh                  19169  story, ia
    39057  greene, oh                 19171  tama, ia
    39091  logan, oh                  19175  union, ia
    39109  miami, oh                  19177  van buren, ia
    39113  montgomery, oh             19179  wapello, ia
    39135  preble, oh                 19181  warren, ia
    39149  shelby, oh                 19185  wayne, ia
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detroit mi bea                          el paso tx bea
detroit bea                             b133 bea
b071 bea                                    35005   chaves, nm
    26049   genesee, mi                     35013   dona ana, nm
    26087   lapeer, mi                      35015   eddy, nm
    26093   livingston, mi                  35017   grant, nm
    26099   macomb, mi                      35023   hidalgo, nm
    26125   oakland, mi                     35029   luna, nm
    26147   st clair, mi                    35035   otero, nm
    26151   sanilac, mi                     35051   sierra, nm
    26155   shiawassee, mi                  48043   brewster, tx
    26161   washtenaw, mi                   48109   culberson, tx
    26163   wayne, mi                       48141   el paso, tx
                                            48229   hudspeth, tx
dubuque ia bea                              48243   jeff davis, tx
b098 bea                                    48377   presidio, tx
    17085   jo daviess, il
    19005   allamakee, ia               erie pa bea
    19043   clayton, ia                 b015 bea
    19055   delaware, ia                    42031   clarion, pa
    19061   dubuque, ia                     42039   crawford, pa
    19097   jackson, ia                     42049   erie, pa
    19191   winneshiek, ia                  42053   forest, pa
    55023   crawford, wi                    42121   venango, pa
    55043   grant, wi                       42123   warren, pa
    55065   lafayette, wi
                                        eugene or bea
duluth mn bea                           b173 bea
b095 bea                                    41011   coos, or
    26053   gogebic, mi                     41015   curry, or
    26131   ontonagon, mi                   41019   douglas, or
    27017   carlton, mn                     41029   jackson, or
    27031   cook, mn                        41033   josephine, or
    27061   itasca, mn                      41035   klamath, or
    27071   koochiching, mn                 41037   lake, or
    27075   lake, mn                        41039   lane, or
    27137   st louis, mn
    55003   ashland, wi                 eureka ca bea
    55007   bayfield, wi                b175 bea
    55031   douglas, wi                     06015   del norte, ca
    55051   iron, wi                        06023   humboldt, ca
                                            06105   trinity, ca
eau claire wi bea
b092 bea                                evansville in bea
    55005   barron, wi                  b080 bea
    55017   chippewa, wi                    17047   edwards, il
    55033   dunn, wi                        17059   gallatin, il
    55035   eau claire, wi                  17065   hamilton, il
    55091   pepin, wi                       17101   lawrence, il
    55107   rusk, wi                        17165   saline, il
    55113   sawyer, wi                      17185   wabash, il
    55129   washburn, wi                    17193   white, il
                                            18037   dubois, in
                                            18051   gibson, in
                                            18083   knox, in
                                            18123   perry, in
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evansville in bea (cont)          fayetteville nc bea
    18125  pike, in               b026 bea
    18129  posey, in                  37017  bladen, nc
    18147  spencer, in                37051  cumberland, nc
    18163  vanderburgh, in            37093  hoke, nc
    18173  warrick, in                37153  richmond, nc
    21059  daviess, ky                37155  robeson, nc
    21091  hancock, ky                37163  sampson, nc
    21101  henderson, ky              37165  scotland, nc
    21107  hopkins, ky
    21149  mc lean, ky            florence sc bea
    21177  muhlenberg, ky         b033 bea
    21183  ohio, ky                   45025  chesterfield, sc
    21225  union, ky                  45031  darlington, sc
    21233  webster, ky                45033  dillon, sc
                                      45041  florence, sc
fargo nd bea                         45043  georgetown, sc
moorhead mn bea                      45051  horry, sc
b149 bea                             45067  marion, sc
    27005  becker, mn                 45069  marlboro, sc
    27027  clay, mn                   45089  williamsburg, sc
    27111  otter tail, mn
    27167  wilkin, mn             fort dodge ia bea
    38003  barnes, nd             ft dodge ia bea
    38017  cass, nd               b102 bea
    38021  dickey, nd                 19021  buena vista, ia
    38027  eddy, nd                   19025  calhoun, ia
    38031  foster, nd                 19027  carroll, ia
    38039  griggs, nd                 19041  clay, ia
    38045  la moure, nd               19059  dickinson, ia
    38047  logan, nd                  19063  emmet, ia
    38051  mc intosh, nd              19073  greene, ia
    38073  ransom, nd                 19079  hamilton, ia
    38077  richland, nd               19091  humboldt, ia
    38081  sargent, nd                19109  kossuth, ia
    38091  steele, nd                 19147  palo alto, ia
    38093  stutsman, nd               19151  pocahontas, ia
    38097  traill, nd                 19161  sac, ia
                                      19187  webster, ia
fayetteville ar bea                  19197  wright, ia
b109 bea
    05005  baxter, ar            fort smith ar bea
    05009  boone, ar             ft smith ar bea
    05015  carroll, ar           b110 bea
    05087  madison, ar                05033  crawford, ar
    05089  marion, ar                 05047  franklin, ar
    05101  newton, ar                 05083  logan, ar
    05129  searcy, ar                 05113  polk, ar
    05143  washington, ar             05127  scott, ar
    29015  benton, mo                 05131  sebastian, ar
    40001  adair, ok                  40023  choctaw, ok
    40041  delaware, ok               40061  haskell, ok
                                      40077  latimer, ok
                                      40079  le flore, ok
                                      40089  mc curtain, ok
                                      40121  pittsburg, ok
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fort smith ar bea (cont)              grand island ne bea (cont)
    40127  pushmataha, ok                 31011  boone, ne
    40135  sequoyah, ok                   31015  boyd, ne
                                          31017  brown, ne
fort wayne in bea                         31019  buffalo, ne
ft wayne in bea                           31029  chase, ne
b076 bea                                  31031  cherry, ne
    18001  adams, in                      31035  clay, ne
    18003  allen, in                      31041  custer, ne
    18033  de kalb, in                    31047  dawson, ne
    18069  huntington, in                 31057  dundy, ne
    18113  noble, in                      31061  franklin, ne
    18151  steuben, in                    31063  frontier, ne
    18179  wells, in                      31065  furnas, ne
    18183  whitley, in                    31071  garfield, ne
    39039  defiance, oh                   31073  gosper, ne
    39125  paulding, oh                   31075  grant, ne
    39171  williams, oh                   31077  greeley, ne
                                          31079  hall, ne
fresno ca bea                             31081  hamilton, ne
bakersfield ca bea                        31083  harlan, ne
b179 bea                                  31085  hayes, ne
    06019  fresno, ca                     31087  hitchcock, ne
    06029  kern, ca                       31089  holt, ne
    06031  kings, ca                      31091  hooker, ne
    06039  madera, ca                     31093  howard, ne
    06107  tulare, ca                     31099  kearney, ne
                                          31101  keith, ne
grand forks nd bea                        31103  keya paha, ne
b150 bea                                  31111  lincoln, ne
    27007  beltrami, mn                   31113  logan, ne
    27029  clearwater, mn                 31115  loup, ne
    27057  hubbard, mn                    31117  mc pherson, ne
    27069  kittson, mn                    31121  merrick, ne
    27077  lake of the woods, mn          31125  nance, ne
    27087  mahnomen, mn                   31129  nuckolls, ne
    27089  marshall, mn                   31135  perkins, ne
    27107  norman, mn                     31137  phelps, ne
    27113  pennington, mn                 31145  red willow, ne
    27119  polk, mn                       31149  rock, ne
    27125  red lake, mn                   31163  sherman, ne
    27135  roseau, mn                     31171  thomas, ne
    38005  benson, nd                     31175  valley, ne
    38019  cavalier, nd                   31181  webster, ne
    38035  grand forks, nd                31183  wheeler, ne
    38063  nelson, nd
    38067  pembina, nd                grand junction co bea
    38071  ramsey, nd                 b159 bea
    38095  towner, nd                     08007  archuleta, co
    38099  walsh, nd                      08029  delta, co
                                          08033  dolores, co
grand island ne bea                       08037  eagle, co
b144 bea                                  08045  garfield, co
    31001  adams, ne                      08051  gunnison, co
    31005  arthur, ne                     08053  hinsdale, co
    31009  blaine, ne                     08067  la plata, co
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grand junction co bea (cont)
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08077   mesa, co
08081   moffat, co
08083   montezuma, co
08085   montrose, co
08091   ouray, co
08097   pitkin, co
08103   rio blanco, co
08107   routt, co
08111   san juan, co
08113   san miguel, co
49019   grand, ut
49037   san juan, ut
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grand rapids mi bea
b073 bea
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26005   allegan, mi
26009   antrim, mi
26019   benzie, mi
26029   charlevoix, mi
26047   emmet, mi
26055   grand traverse, mi
26079   kalkaska, mi
26081   kent, mi
26085   lake, mi
26089   leelanau, mi
26101   manistee, mi
26105   mason, mi
26107   mecosta, mi
26113   missaukee, mi
26117   montcalm, mi
26121   muskegon, mi
26123   newaygo, mi
26127   oceana, mi
26133   osceola, mi
26139   ottawa, mi
26165   wexford, mi
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great falls mt bea
b153 bea
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30005   blaine, mt
30007   broadwater, mt
30013   cascade, mt
30015   chouteau, mt
30027   fergus, mt
30035   glacier, mt
30041   hill, mt
30043   jefferson, mt
30045   judith basin, mt
30049   lewis and clark, mt
30051   liberty, mt
30059   meagher, mt
30069   petroleum, mt
30071   phillips, mt
30073   pondera, mt
30099   teton, mt
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great falls mt bea (cont)
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30101   toole, mt
30105   valley, mt
30107   wheatland, mt
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greensboro nc bea
winston-salem nc bea
high point nc bea
b028 bea
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37001   alamance, nc
37005   alleghany, nc
37009   ashe, nc
37033   caswell, nc
37057   davidson, nc
37059   davie, nc
37067   forsyth, nc
37081   guilford, nc
37123   montgomery, nc
37125   moore, nc
37151   randolph, nc
37157   rockingham, nc
37169   stokes, nc
37171   surry, nc
37189   watauga, nc
37193   wilkes, nc
37197   yadkin, nc
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greenville sc bea
spartanburg sc bea
b031 bea
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37149   polk, nc
45001   abbeville, sc
45007   anderson, sc
45021   cherokee, sc
45045   greenville, sc
45047   greenwood, sc
45059   laurens, sc
45073   oconee, sc
45077   pickens, sc
45083   spartanburg, sc
45087   union, sc
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harrisburg pa bea
york pa bea
lancaster pa bea
b017 bea
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42001   adams, pa
42041   cumberland, pa
42043   dauphin, pa
42055   franklin, pa
42057   fulton, pa
42061   huntingdon, pa
42067   juniata, pa
42071   lancaster, pa
42075   lebanon, pa
42087   mifflin, pa
```

harrisburg pa bea (cont)
    42099 perry, pa
    42133 york, pa

hartford ct bea
new haven ct bea
springfield ma bea
b006 bea
    09003 hartford, ct
    09005 litchfield, ct
    09007 middlesex, ct
    09009 new haven, ct
    09011 new london, ct
    09013 tolland, ct
    09015 windham, ct
    25003 berkshire, ma
    25011 franklin, ma
    25013 hampden, ma
    25015 hampshire, ma
    33005 cheshire, nh
    50025 windham, vt

honolulu hi bea
hawaii bea
honolulu ha bea
honolulu bea
b183 bea
    15001 hawaii, hi
    15003 honolulu, hi
    15007 kauai, hi
    15009 maui, hi

houston tx bea
b122 bea
    48015 austin, tx
    48039 brazoria, tx
    48041 brazos, tx
    48051 burleson, tx
    48057 calhoun, tx
    48071 chambers, tx
    48089 colorado, tx
    48123 de witt, tx
    48149 fayette, tx
    48157 fort bend, tx
    48167 galveston, tx
    48175 goliad, tx
    48185 grimes, tx
    48201 harris, tx
    48239 jackson, tx
    48285 lavaca, tx
    48289 leon, tx
    48291 liberty, tx
    48313 madison, tx
    48321 matagorda, tx
    48339 montgomery, tx
    48373 polk, tx

houston tx bea (cont)
    48395 robertson, tx
    48407 san jacinto, tx
    48455 trinity, tx
    48469 victoria, tx
    48471 walker, tx
    48473 waller, tx
    48477 washington, tx
    48481 wharton, tx

huntington wv bea
b059 bea
    21019 boyd, ky
    21043 carter, ky
    21063 elliott, ky
    21071 floyd, ky
    21089 greenup, ky
    21115 johnson, ky
    21127 lawrence, ky
    21159 martin, ky
    21195 pike, ky
    21205 rowan, ky
    39053 gallia, oh
    39087 lawrence, oh
    54011 cabell, wv
    54043 lincoln, wv
    54045 logan, wv
    54053 mason, wv
    54059 mingo, wv
    54099 wayne, wv

huntsville al bea
florence al bea
b050 bea
    01033 colbert, al
    01059 franklin, al
    01077 lauderdale, al
    01079 lawrence, al
    01083 limestone, al
    01089 madison, al
    01095 marshall, al
    01103 morgan, al
    47103 lincoln, tn

indianapolis in bea
indianapolis bea
b079 bea
    18005 bartholomew, in
    18011 boone, in
    18013 brown, in
    18027 daviess, in
    18031 decatur, in
    18055 greene, in
    18057 hamilton, in
    18059 hancock, in
    18063 hendricks, in

indianapolis in bea (cont)
```
    18071   jackson, in
    18079   jennings, in
    18081   johnson, in
    18093   lawrence, in
    18097   marion, in
    18101   martin, in
    18105   monroe, in
    18109   morgan, in
    18119   owen, in
    18133   putnam, in
    18139   rush, in
    18145   shelby, in
```

jackson ms bea
jackson miss bea
b112 bea
```
    28007   attala, ms
    28019   choctaw, ms
    28021   claiborne, ms
    28023   clarke, ms
    28029   copiah, ms
    28031   covington, ms
    28037   franklin, ms
    28049   hinds, ms
    28051   holmes, ms
    28053   humphreys, ms
    28055   issaquena, ms
    28061   jasper, ms
    28063   jefferson, ms
    28065   jefferson davis, ms
    28067   jones, ms
    28069   kemper, ms
    28075   lauderdale, ms
    28077   lawrence, ms
    28079   leake, ms
    28085   lincoln, ms
    28087   lowndes, ms
    28089   madison, ms
    28099   neshoba, ms
    28101   newton, ms
    28103   noxubee, ms
    28105   oktibbeha, ms
    28121   rankin, ms
    28123   scott, ms
    28125   sharkey, ms
    28127   simpson, ms
    28129   smith, ms
    28149   warren, ms
    28153   wayne, ms
    28159   winston, ms
    28163   yazoo, ms
```

jacksonville fl bea
b041 bea
```
    12001   alachua, fl
    12003   baker, fl
    12007   bradford, fl
    12019   clay, fl
    12023   columbia, fl
    12029   dixie, fl
    12031   duval, fl
    12041   gilchrist, fl
    12047   hamilton, fl
    12067   lafayette, fl
    12075   levy, fl
    12083   marion, fl
    12089   nassau, fl
    12107   putnam, fl
    12109   st johns, fl
    12121   suwannee, fl
    12125   union, fl
    13025   brantley, ga
    13039   camden, ga
    13049   charlton, ga
    13127   glynn, ga
    13229   pierce, ga
    13299   ware, ga
```

johnson city tn bea
kingsport tn bea
bristol va bea
b052 bea
```
    47019   carter, tn
    47059   greene, tn
    47067   hancock, tn
    47073   hawkins, tn
    47091   johnson, tn
    47163   sullivan, tn
    47171   unicoi, tn
    47179   washington, tn
    51027   buchanan, va
    51051   dickenson, va
    51105   lee, va
    51167   russell, va
    51169   scott, va
    51173   smyth, va
    51185   tazewell, va
    51191   washington, va
    51195   wise, va
    51520   bristol city, va
    51720   norton city, va
    54047   mc dowell, wv
    54055   mercer, wv
```

```
kansas city mo bea                    knoxville tn bea (cont)
kansas city bea                          47029  cocke, tn
b105 bea                                 47035  cumberland, tn
   20003  anderson, ks                   47049  fentress, tn
   20005  atchison, ks                   47057  grainger, tn
   20013  brown, ks                      47063  hamblen, tn
   20043  doniphan, ks                   47089  jefferson, tn
   20045  douglas, ks                    47093  knox, tn
   20059  franklin, ks                   47105  loudon, tn
   20091  johnson, ks                    47129  morgan, tn
   20103  leavenworth, ks                47145  roane, tn
   20107  linn, ks                       47151  scott, tn
   20121  miami, ks                      47155  sevier, tn
   20209  wyandotte, ks                  47173  union, tn
   29003  andrew, mo
   29005  atchison, mo               kokomo in bea
   29013  bates, mo                  marion in bea
   29015  benton, mo                 b077 bea
   29021  buchanan, mo                  18017  cass, in
   29025  caldwell, mo                  18053  grant, in
   29033  carroll, mo                   18067  howard, in
   29037  cass, mo                      18103  miami, in
   29047  clay, mo                      18159  tipton, in
   29049  clinton, mo                   18169  wabash, in
   29061  daviess, mo
   29063  de kalb, mo                la crosse wi bea
   29075  gentry, mo                 b091 bea
   29079  grundy, mo                    27055  houston, mn
   29081  harrison, mo                  27169  winona, mn
   29083  henry, mo                     55011  buffalo, wi
   29087  holt, mo                      55053  jackson, wi
   29095  jackson, mo                   55057  juneau, wi
   29101  johnson, mo                   55063  la crosse, wi
   29107  lafayette, mo                 55081  monroe, wi
   29117  livingston, mo                55121  trempealeau, wi
   29129  mercer, mo                    55123  vernon, wi
   29147  nodaway, mo
   29159  pettis, mo                 lafayette in bea
   29165  platte, mo                 b082 bea
   29177  ray, mo                       18007  benton, in
   29195  saline, mo                    18015  carroll, in
   29227  worth, mo                     18023  clinton, in
                                        18045  fountain, in
knoxville tn bea                        18107  montgomery, in
b053 bea                                18157  tippecanoe, in
   21013  bell, ky                      18171  warren, in
   21095  harlan, ky                    18181  white, in
   21121  knox, ky
   21125  laurel, ky                 lafayette la bea
   21147  mc creary, ky              b115 bea
   21231  wayne, ky                     22001  acadia, la
   21235  whitley, ky                   22039  evangeline, la
   47001  anderson, tn                  22045  iberia, la
   47009  blount, tn                    22055  lafayette, la
   47013  campbell, tn                  22097  st landry, la
   47025  claiborne, tn                 22099  st martin, la
```

```
lafayette la bea (cont)          lexington ky bea (cont)
    22101   st mary, la              21011   bath, ky
    22113   vermilion, la            21017   bourbon, ky
                                     21021   boyle, ky
lake charles la bea                  21025   breathitt, ky
b116 bea                             21045   casey, ky
    22003   allen, la                21049   clark, ky
    22011   beauregard, la           21051   clay, ky
    22019   calcasieu, la            21065   estill, ky
    22023   cameron, la              21067   fayette, ky
    22053   jefferson davis, la      21073   franklin, ky
    22115   vernon, la               21079   garrard, ky
                                     21087   green, ky
lansing mi bea                       21097   harrison, ky
kalamazoo mi bea                     21109   jackson, ky
b074 bea                             21113   jessamine, ky
    26015   barry, mi                21119   knott, ky
    26023   branch, mi               21129   lee, ky
    26025   calhoun, mi              21131   leslie, ky
    26037   clinton, mi              21133   letcher, ky
    26045   eaton, mi                21137   lincoln, ky
    26059   hillsdale, mi            21151   madison, ky
    26065   ingham, mi               21153   magoffin, ky
    26067   ionia, mi                21165   menifee, ky
    26075   jackson, mi              21167   mercer, ky
    26077   kalamazoo, mi            21173   montgomery, ky
    26159   van buren, mi            21175   morgan, ky
                                     21181   nicholas, ky
las vegas nv bea                     21189   owsley, ky
b163 bea                             21193   perry, ky
    32003   clark, nv                21197   powell, ky
    32009   esmeralda, nv            21199   pulaski, ky
    32017   lincoln, nv              21203   rockcastle, ky
    32023   nye, nv                  21207   russell, ky
    49001   beaver, ut               21209   scott, ky
    49017   garfield, ut             21217   taylor, ky
    49021   iron, ut                 21237   wolfe, ky
    49025   kane, ut                 21239   woodford, ky
    49053   washington, ut
                                 lima oh bea
lawton ok bea                    b069 bea
b136 bea                             39003   allen, oh
    40031   comanche, ok             39011   auglaize, oh
    40033   cotton, ok               39065   hardin, oh
    40055   greer, ok                39107   mercer, oh
    40057   harmon, ok               39137   putnam, oh
    40065   jackson, ok              39161   van wert, oh
    40067   jefferson, ok
    40075   kiowa, ok            lincoln ne bea
    40137   stephens, ok         b142 bea
    40141   tillman, ok              31023   butler, ne
                                     31059   fillmore, ne
lexington ky bea                     31067   gage, ne
b058 bea                             31095   jefferson, ne
    21001   adair, ky                31097   johnson, ne
    21005   anderson, ky             31109   lancaster, ne
```

```
lincoln ne bea (cont)              los angeles ca bea
    31127  nemaha, ne              los angeles bea
    31131  otoe, ne                b180 bea
    31133  pawnee, ne                  06027  inyo, ca
    31143  polk, ne                    06037  los angeles, ca
    31147  richardson, ne              06051  mono, ca
    31151  saline, ne                  06059  orange, ca
    31159  seward, ne                  06065  riverside, ca
    31169  thayer, ne                  06071  san bernardino, ca
    31185  york, ne                    06079  san luis obispo, ca
                                       06083  santa barbara, ca
little rock ar bea                     06111  ventura, ca
north little rock ar bea
little rock bea                    louisville ky bea
b111 bea                           b057 bea
    05001  arkansas, ar                18019  clark, in
    05003  ashley, ar                  18025  crawford, in
    05011  bradley, ar                 18043  floyd, in
    05013  calhoun, ar                 18061  harrison, in
    05017  chicot, ar                  18077  jefferson, in
    05019  clark, ar                   18117  orange, in
    05023  cleburne, ar                18143  scott, in
    05025  cleveland, ar               18175  washington, in
    05029  conway, ar                  21027  breckinridge, ky
    05039  dallas, ar                  21029  bullitt, ky
    05041  desha, ar                   21085  grayson, ky
    05043  drew, ar                    21093  hardin, ky
    05045  faulkner, ar                21099  hart, ky
    05049  fulton, ar                  21103  henry, ky
    05051  garland, ar                 21111  jefferson, ky
    05053  grant, ar                   21123  larue, ky
    05059  hot spring, ar              21155  marion, ky
    05063  independence, ar            21163  meade, ky
    05065  izard, ar                   21179  nelson, ky
    05067  jackson, ar                 21185  oldham, ky
    05069  jefferson, ar               21211  shelby, ky
    05071  johnson, ar                 21215  spencer, ky
    05079  lincoln, ar                 21223  trimble, ky
    05085  lonoke, ar                  21229  washington, ky
    05095  monroe, ar
    05097  montgomery, ar         lubbock tx bea
    05103  ouachita, ar           b134 bea
    05105  perry, ar                   35025  lea, nm
    05115  pope, ar                    35041  roosevelt, nm
    05117  prairie, ar                 48017  bailey, tx
    05119  pulaski, ar                 48033  borden, tx
    05125  saline, ar                  48079  cochran, tx
    05135  sharp, ar                   48107  crosby, tx
    05137  stone, ar                   48115  dawson, tx
    05139  union, ar                   48125  dickens, tx
    05141  van buren, ar               48153  floyd, tx
    05145  white, ar                   48165  gaines, tx
    05147  woodruff, ar                48169  garza, tx
    05149  yell, ar                    48189  hale, tx
                                       48219  hockley, tx
                                       48269  king, tx
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lubbock tx bea (cont)                    memphis tn bea (cont)
    48279  lamb, tx                          05093  mississippi, ar
    48303  lubbock, tx                       05107  phillips, ar
    48305  lynn, tx                          05111  poinsett, ar
    48345  motley, tx                        05121  randolph, ar
    48445  terry, tx                         05123  st francis, ar
    48501  yoakum, tx                        28003  alcorn, ms
                                             28009  benton, ms
macon ga bea                                 28011  bolivar, ms
b038 bea                                     28013  calhoun, ms
    13009  baldwin, ga                       28015  carroll, ms
    13021  bibb, ga                          28017  chickasaw, ms
    13023  bleckley, ga                      28025  clay, ms
    13079  crawford, ga                      28027  coahoma, ms
    13081  crisp, ga                         28033  de soto, ms
    13091  dodge, ga                         28043  grenada, ms
    13093  dooly, ga                         28057  itawamba, ms
    13141  hancock, ga                       28071  lafayette, ms
    13153  houston, ga                       28081  lee, ms
    13167  johnson, ga                       28083  leflore, ms
    13169  jones, ga                         28093  marshall, ms
    13175  laurens, ga                       28095  monroe, ms
    13193  macon, ga                         28097  montgomery, ms
    13207  monroe, ga                        28107  panola, ms
    13225  peach, ga                         28115  pontotoc, ms
    13235  pulaski, ga                       28117  prentiss, ms
    13237  putnam, ga                        28119  quitman, ms
    13269  taylor, ga                        28133  sunflower, ms
    13271  telfair, ga                       28135  tallahatchie, ms
    13283  treutlen, ga                      28137  tate, ms
    13289  twiggs, ga                        28139  tippah, ms
    13303  washington, ga                    28141  tishomingo, ms
    13309  wheeler, ga                       28143  tunica, ms
    13315  wilcox, ga                        28145  union, ms
    13319  wilkinson, ga                     28151  washington, ms
                                             28155  webster, ms
madison wi bea                               28161  yalobusha, ms
b090 bea                                     29069  dunklin, mo
    55001  adams, wi                         29143  new madrid, mo
    55021  columbia, wi                      29155  pemiscot, mo
    55025  dane, wi                          47005  benton, tn
    55045  green, wi                         47017  carroll, tn
    55049  iowa, wi                          47023  chester, tn
    55077  marquette, wi                     47033  crockett, tn
    55103  richland, wi                      47039  decatur, tn
    55111  sauk, wi                          47045  dyer, tn
                                             47047  fayette, tn
memphis tn bea                               47053  gibson, tn
b055 bea                                     47069  hardeman, tn
    05021  clay, ar                          47071  hardin, tn
    05031  craighead, ar                     47075  haywood, tn
    05035  crittenden, ar                    47077  henderson, tn
    05037  cross, ar                         47079  henry, tn
    05055  greene, ar                        47095  lake, tn
    05075  lawrence, ar                      47097  lauderdale, tn
    05077  lee, ar                           47109  mc nairy, tn
```

memphis tn bea (cont)
```
    47113   madison, tn
    47131   obion, tn
    47157   shelby, tn
    47167   tipton, tn
    47183   weakley, tn
```

miami fl bea
fort lauderdale fl bea
ft lauderdale bea
b043 bea
```
    12011   broward, fl
    12025   dade, fl
    12043   glades, fl
    12051   hendry, fl
    12061   indian river, fl
    12085   martin, fl
    12087   monroe, fl
    12093   okeechobee, fl
    12099   palm beach, fl
    12111   st lucie, fl
```

milwaukee wi bea
milwaukee bea
b089 bea
```
    55027   dodge, wi
    55055   jefferson, wi
    55079   milwaukee, wi
    55089   ozaukee, wi
    55101   racine, wi
    55117   sheboygan, wi
    55127   walworth, wi
    55131   washington, wi
    55133   waukesha, wi
```

minneapolis mn bea
st paul mn bea
minneapolis bea
b096 bea
```
    27001   aitkin, mn
    27003   anoka, mn
    27009   benton, mn
    27011   big stone, mn
    27013   blue earth, mn
    27015   brown, mn
    27019   carver, mn
    27021   cass, mn
    27023   chippewa, mn
    27025   chisago, mn
    27035   crow wing, mn
    27037   dakota, mn
    27041   douglas, mn
    27043   faribault, mn
    27049   goodhue, mn
    27051   grant, mn
    27053   hennepin, mn
```

minneapolis mn bea (cont)
```
    27059   isanti, mn
    27065   kanabec, mn
    27067   kandiyohi, mn
    27073   lac qui parle, mn
    27079   le sueur, mn
    27085   mc leod, mn
    27091   martin, mn
    27093   meeker, mn
    27095   mille lacs, mn
    27097   morrison, mn
    27103   nicollet, mn
    27115   pine, mn
    27121   pope, mn
    27123   ramsey, mn
    27129   renville, mn
    27131   rice, mn
    27139   scott, mn
    27141   sherburne, mn
    27143   sibley, mn
    27145   stearns, mn
    27149   stevens, mn
    27151   swift, mn
    27153   todd, mn
    27155   traverse, mn
    27159   wadena, mn
    27161   waseca, mn
    27163   washington, mn
    27165   watonwan, mn
    27171   wright, mn
    27173   yellow medicine, mn
    55013   burnett, wi
    55093   pierce, wi
    55095   polk, wi
    55109   st croix, wi
```

minot nd bea
b152 bea
```
    30019   daniels, mt
    30083   richland, mt
    30085   roosevelt, mt
    30091   sheridan, mt
    38009   bottineau, nd
    38013   burke, nd
    38023   divide, nd
    38049   mc henry, nd
    38053   mc kenzie, nd
    38055   mc lean, nd
    38061   mountrail, nd
    38069   pierce, nd
    38075   renville, nd
    38079   rolette, nd
    38101   ward, nd
    38105   williams, nd
```

missoula mt bea
b154 bea
    30001 beaverhead, mt
    30023 deer lodge, mt
    30029 flathead, mt
    30039 granite, mt
    30047 lake, mt
    30053 lincoln, mt
    30057 madison, mt
    30061 mineral, mt
    30063 missoula, mt
    30077 powell, mt
    30081 ravalli, mt
    30089 sanders, mt
    30093 silver bow, mt

mobile al bea
b047 bea
    01003 baldwin, al
    01023 choctaw, al
    01025 clarke, al
    01035 conecuh, al
    01053 escambia, al
    01091 marengo, al
    01097 mobile, al
    01099 monroe, al
    01129 washington, al
    01131 wilcox, al
    28039 george, ms
    28041 greene, ms
    28059 jackson, ms

monroe la bea
b118 bea
    22021 caldwell, la
    22025 catahoula, la
    22035 east carroll, la
    22041 franklin, la
    22049 jackson, la
    22059 la salle, la
    22061 lincoln, la
    22065 madison, la
    22067 morehouse, la
    22073 ouachita, la
    22083 richland, la
    22107 tensas, la
    22111 union, la
    22123 west carroll, la

montgomery al bea
b048 bea
    01001 autauga, al
    01005 barbour, al
    01011 bullock, al
    01013 butler, al
    01031 coffee, al

montgomery al bea (cont)
    01037 coosa, al
    01039 covington, al
    01041 crenshaw, al
    01045 dale, al
    01047 dallas, al
    01051 elmore, al
    01061 geneva, al
    01067 henry, al
    01069 houston, al
    01085 lowndes, al
    01087 macon, al
    01101 montgomery, al
    01105 perry, al
    01109 pike, al
    01123 tallapoosa, al

morgantown wv bea
fairmont wv bea
b061 bea
    54001 barbour, wv
    54017 doddridge, wv
    54033 harrison, wv
    54041 lewis, wv
    54049 marion, wv
    54061 monongalia, wv
    54077 preston, wv
    54083 randolph, wv
    54091 taylor, wv
    54093 tucker, wv
    54097 upshur, wv

nashville tn bea
b054 bea
    21003 allen, ky
    21009 barren, ky
    21031 butler, ky
    21047 christian, ky
    21053 clinton, ky
    21057 cumberland, ky
    21061 edmonson, ky
    21141 logan, ky
    21169 metcalfe, ky
    21171 monroe, ky
    21213 simpson, ky
    21219 todd, ky
    21221 trigg, ky
    21227 warren, ky
    47003 bedford, tn
    47015 cannon, tn
    47021 cheatham, tn
    47027 clay, tn
    47031 coffee, tn
    47037 davidson, tn
    47041 de kalb, tn
    47043 dickson, tn

```
nashville tn bea (cont)                new orleans la bea (cont)
   47051  franklin, tn                    28131  stone, ms
   47055  giles, tn                       28147  walthall, ms
   47081  hickman, tn
   47083  houston, tn                  new york ny bea
   47085  humphreys, tn               new york bea
   47087  jackson, tn                 b012 bea
   47099  lawrence, tn                   09001  fairfield, ct
   47101  lewis, tn                      34003  bergen, nj
   47111  macon, tn                      34013  essex, nj
   47117  marshall, tn                   34017  hudson, nj
   47119  maury, tn                      34019  hunterdon, nj
   47125  montgomery, tn                 34023  middlesex, nj
   47127  moore, tn                      34025  monmouth, nj
   47133  overton, tn                    34027  morris, nj
   47135  perry, tn                      34029  ocean, nj
   47137  pickett, tn                    34031  passaic, nj
   47141  putnam, tn                     34035  somerset, nj
   47147  robertson, tn                  34037  sussex, nj
   47149  rutherford, tn                 34039  union, nj
   47159  smith, tn                      36005  bronx, ny
   47161  stewart, tn                    36027  dutchess, ny
   47165  sumner, tn                     36047  kings, ny
   47169  trousdale, tn                  36059  nassau, ny
   47175  van buren, tn                  36061  new york, ny
   47177  warren, tn                     36071  orange, ny
   47181  wayne, tn                      36079  putnam, ny
   47185  white, tn                      36081  queens, ny
   47187  williamson, tn                 36085  richmond, ny
   47189  wilson, tn                     36087  rockland, ny
                                          36103  suffolk, ny
                                          36105  sullivan, ny
new orleans la bea                        36111  ulster, ny
new orleans bea                           36119  westchester, ny
b113 bea                                  42103  pike, pa
   22007  assumption, la
   22051  jefferson, la              norfolk va bea
   22057  lafourche, la              virginia beach va bea
   22071  orleans, la                newport news va bea
   22075  plaquemines, la            b023 bea
   22087  st bernard, la                 37015  bertie, nc
   22089  st charles, la                 37029  camden, nc
   22093  st james, la                   37041  chowan, nc
   22095  st john the baptist, la        37053  currituck, nc
   22103  st tammany, la                 37073  gates, nc
   22105  tangipahoa, la                 37091  hertford, nc
   22109  terrebonne, la                 37139  pasquotank, nc
   22117  washington, la                 37143  perquimans, nc
   28035  forrest, ms                    51073  gloucester, va
   28045  hancock, ms                    51093  isle of wight, va
   28047  harrison, ms                   51095  james city, va
   28073  lamar, ms                      51115  mathews, va
   28091  marion, ms                     51119  middlesex, va
   28109  pearl river, ms                51175  southampton, va
   28111  perry, ms                      51181  surry, va
   28113  pike, ms                       51199  york, va
```

```
norfolk va bea (cont)                    oklahoma city ok bea (cont)
    51550   chesapeake city, va              40095   marshall, ok
    51620   franklin city, va                40099   murray, ok
    51650   hampton city, va                 40107   okfuskee, ok
    51700   newport news city, va            40109   oklahoma, ok
    51710   norfolk city, va                 40123   pontotoc, ok
    51740   portsmouth city, va              40125   pottawatomie, ok
    51800   suffolk city, va                 40129   roger mills, ok
    51810   virginia beach city, va          40133   seminole, ok
    51830   williamsburg city, va            40149   washita, ok
                                             40151   woods, ok
odessa tx bea                                40153   woodward, ok
midland tx bea
b132 bea                                 omaha ne bea
    48003   andrews, tx                  b143 bea
    48103   crane, tx                        19003   adams, ia
    48135   ector, tx                        19009   audubon, ia
    48173   glasscock, tx                    19029   cass, ia
    48227   howard, tx                       19071   fremont, ia
    48301   loving, tx                       19085   harrison, ia
    48317   martin, tx                       19129   mills, ia
    48329   midland, tx                      19137   montgomery, ia
    48371   pecos, tx                        19145   page, ia
    48389   reeves, tx                       19155   pottawattamie, ia
    48461   upton, tx                        19165   shelby, ia
    48475   ward, tx                         19173   taylor, ia
    48495   winkler, tx                      31021   burt, ne
                                             31025   cass, ne
oklahoma city ok bea                         31037   colfax, ne
oklahoma city bea                            31053   dodge, ne
b137 bea                                     31055   douglas, ne
    40003   alfalfa, ok                      31141   platte, ne
    40005   atoka, ok                        31153   sarpy, ne
    40009   beckham, ok                      31155   saunders, ne
    40011   blaine, ok                       31177   washington, ne
    40015   caddo, ok
    40017   canadian, ok                 orlando fl bea
    40019   carter, ok                   melbourne fl bea
    40027   cleveland, ok                daytona beach fl bea
    40029   coal, ok                     daytona beach bea
    40039   custer, ok                   b042 bea
    40043   dewey, ok                        12009   brevard, fl
    40045   ellis, ok                        12035   flagler, fl
    40047   garfield, ok                     12069   lake, fl
    40049   garvin, ok                       12095   orange, fl
    40051   grady, ok                        12097   osceola, fl
    40053   grant, ok                        12117   seminole, fl
    40059   harper, ok                       12119   sumter, fl
    40063   hughes, ok                       12127   volusia, fl
    40069   johnston, ok
    40073   kingfisher, ok               paducah ky bea
    40081   lincoln, ok                  b056 bea
    40083   logan, ok                        17069   hardin, il
    40085   love, ok                         17127   massac, il
    40087   mc clain, ok                     17151   pope, il
    40093   major, ok                        21007   ballard, ky
```

```
paducah ky bea (cont)              philadelphia pa bea (cont)
    21033  caldwell, ky                34005  burlington, nj
    21035  calloway, ky                34007  camden, nj
    21039  carlisle, ky                34009  cape may, nj
    21055  crittenden, ky              34011  cumberland, nj
    21075  fulton, ky                  34015  gloucester, nj
    21083  graves, ky                  34021  mercer, nj
    21105  hickman, ky                 34033  salem, nj
    21139  livingston, ky              34041  warren, nj
    21143  lyon, ky                    42011  berks, pa
    21145  mc cracken, ky              42017  bucks, pa
    21157  marshall, ky                42025  carbon, pa
                                       42029  chester, pa
parkersburg wv bea                     42045  delaware, pa
b062 bea                               42077  lehigh, pa
    39167  washington, oh              42091  montgomery, pa
    54073  pleasants, wv               42095  northampton, pa
    54085  ritchie, wv                 42101  philadelphia, pa
    54105  wirt, wv                    42107  schuylkill, pa
    54107  wood, wv
                                   phoenix az bea
pensacola fl bea                   b162 bea
panama city fl bea                     04001  apache, az
b046 bea                               04005  coconino, az
    12005  bay, fl                     04007  gila, az
    12033  escambia, fl                04013  maricopa, az
    12045  gulf, fl                    04015  mohave, az
    12059  holmes, fl                  04017  navajo, az
    12091  okaloosa, fl                04021  pinal, az
    12113  santa rosa, fl              04025  yavapai, az
    12131  walton, fl                  04027  yuma, az
    12133  washington, fl
                                   pittsburgh pa bea
peoria il bea                      b016 bea
b087 bea                               24001  allegany, md
    17057  fulton, il                  24023  garrett, md
    17095  knox, il                    42003  allegheny, pa
    17109  mc donough, il              42005  armstrong, pa
    17113  mc lean, il                 42007  beaver, pa
    17123  marshall, il                42009  bedford, pa
    17125  mason, il                   42013  blair, pa
    17143  peoria, il                  42019  butler, pa
    17169  schuyler, il                42021  cambria, pa
    17175  stark, il                   42051  fayette, pa
    17179  tazewell, il                42059  greene, pa
    17187  warren, il                  42063  indiana, pa
    17203  woodford, il                42111  somerset, pa
                                       42125  washington, pa
philadelphia pa bea                    42129  westmoreland, pa
philadelphia bea                       54057  mineral, wv
b018 bea
    10001  kent, de                pocatello id bea
    10003  new castle, de          idaho falls id bea
    10005  sussex, de              b166 bea
    24015  cecil, md                   16005  bannock, id
    34001  atlantic, nj                16011  bingham, id
```

pocatello id bea (cont)
```
    16013  blaine, id
    16019  bonneville, id
    16023  butte, id
    16025  camas, id
    16029  caribou, id
    16031  cassia, id
    16033  clark, id
    16037  custer, id
    16043  fremont, id
    16047  gooding, id
    16051  jefferson, id
    16053  jerome, id
    16059  lemhi, id
    16063  lincoln, id
    16065  madison, id
    16067  minidoka, id
    16077  power, id
    16081  teton, id
    16083  twin falls, id
    56039  teton, wy
```

portland me bea
lewiston me bea
b002 bea
```
    23001  androscoggin, me
    23005  cumberland, me
    23007  franklin, me
    23011  kennebec, me
    23013  knox, me
    23015  lincoln, me
    23017  oxford, me
    23023  sagadahoc, me
    23025  somerset, me
    23031  york, me
```

portland or bea
b172 bea
```
    41003  benton, or
    41005  clackamas, or
    41007  clatsop, or
    41009  columbia, or
    41013  crook, or
    41017  deschutes, or
    41027  hood river, or
    41031  jefferson, or
    41041  lincoln, or
    41043  linn, or
    41047  marion, or
    41051  multnomah, or
    41053  polk, or
    41055  sherman, or
    41057  tillamook, or
    41065  wasco, or
    41067  washington, or
    41071  yamhill, or
```

portland or bea (cont)
```
    53011  clark, wa
    53015  cowlitz, wa
    53039  klickitat, wa
    53059  skamania, wa
    53069  wahkiakum, wa
```

providence ri bea
warwick ri bea
pawtucket ri bea
b005 bea
```
    44001  bristol, ri
    44003  kent, ri
    44005  newport, ri
    44007  providence, ri
    44009  washington, ri
```

quincy il bea
b086 bea
```
    17001  adams, il
    17009  brown, il
    17149  pike, il
    29111  lewis, mo
    29127  marion, mo
    29163  pike, mo
    29173  ralls, mo
```

raleigh nc bea
durham nc bea
b027 bea
```
    37037  chatham, nc
    37063  durham, nc
    37069  franklin, nc
    37077  granville, nc
    37085  harnett, nc
    37101  johnston, nc
    37105  lee, nc
    37135  orange, nc
    37145  person, nc
    37181  vance, nc
    37183  wake, nc
    37185  warren, nc
```

rapid city sd bea
b146 bea
```
    46007  bennett, sd
    46017  buffalo, sd
    46019  butte, sd
    46021  campbell, sd
    46031  corson, sd
    46033  custer, sd
    46041  dewey, sd
    46047  fall river, sd
    46055  haakon, sd
    46063  harding, sd
    46065  hughes, sd
```

rapid city sd bea (cont)
```
46069  hyde, sd
46071  jackson, sd
46075  jones, sd
46081  lawrence, sd
46085  lyman, sd
46093  meade, sd
46095  mellette, sd
46103  pennington, sd
46105  perkins, sd
46107  potter, sd
46113  shannon, sd
46117  stanley, sd
46119  sully, sd
46121  todd, sd
46123  tripp, sd
46129  walworth, sd
46131  washabaugh, sd
46137  ziebach, sd
56011  crook, wy
56027  niobrara, wy
56045  weston, wy
```

redding ca bea
b174 bea
```
06035  lassen, ca
06049  modoc, ca
06063  plumas, ca
06089  shasta, ca
06093  siskiyou, ca
06103  tehama, ca
```

reno nv bea
b164 bea
```
32001  churchill, nv
32005  douglas, nv
32007  elko, nv
32011  eureka, nv
32013  humboldt, nv
32015  lander, nv
32019  lyon, nv
32021  mineral, nv
32027  pershing, nv
32029  storey, nv
32031  washoe, nv
32033  white pine, nv
32510  carson city city, nv
```

richland wa bea
b169 bea
```
41001  baker, or
41021  gilliam, or
41023  grant, or
41049  morrow, or
41059  umatilla, or
41061  union, or
```

richland wa bea (cont)
```
41063  wallowa, or
41069  wheeler, or
53005  benton, wa
53021  franklin, wa
53071  walla walla, wa
```

richmond va bea
b022 bea
```
51003  albemarle, va
51007  amelia, va
51025  brunswick, va
51029  buckingham, va
51033  caroline, va
51036  charles city, va
51037  charlotte, va
51041  chesterfield, va
51049  cumberland, va
51053  dinwiddie, va
51057  essex, va
51065  fluvanna, va
51075  goochland, va
51079  greene, va
51081  greensville, va
51083  halifax, va
51085  hanover, va
51087  henrico, va
51097  king and queen, va
51101  king william, va
51103  lancaster, va
51109  louisa, va
51111  lunenberg, va
51113  madison, va
51117  mecklenburg, va
51127  new kent, va
51133  northumberland, va
51135  nottoway, va
51137  orange, va
51145  powhatan, va
51147  prince edward, va
51149  prince george, va
51159  richmond, va
51183  sussex, va
51540  charlottesville city, va
51570  colonial heights city, va
51595  emporia city, va
51670  hopewell city, va
51730  petersburg city, va
51760  richmond city, va
51780  south boston city, va
```

roanoke va bea
lynchburg va bea
b021 bea
```
51005  alleghany, va
51009  amherst, va
```

roanoke va bea (cont)
```
    51011   appomattox, va
    51015   augusta, va
    51017   bath, va
    51019   bedford, va
    51021   bland, va
    51023   botetourt, va
    51031   campbell, va
    51035   carroll, va
    51045   craig, va
    51063   floyd, va
    51067   franklin, va
    51071   giles, va
    51077   grayson, va
    51089   henry, va
    51091   highland, va
    51121   montgomery, va
    51125   nelson, va
    51141   patrick, va
    51143   pittsylvania, va
    51155   pulaski, va
    51161   roanoke, va
    51163   rockbridge, va
    51165   rockingham, va
    51197   wythe, va
    51515   bedford city, va
    51530   buena vista city, va
    51560   clifton forge city, va
    51580   covington city, va
    51590   danville city, va
    51640   galax city, va
    51660   harrisonburg city, va
    51678   lexington city, va
    51680   lynchburg city, va
    51690   martinsville city, va
    51750   radford city, va
    51770   roanoke city, va
    51775   salem city, va
    51790   staunton city, va
    51820   waynesboro city, va
    54071   pendleton, wv
```

rochester mn bea
b097 bea
```
    27039   dodge, mn
    27045   fillmore, mn
    27047   freeborn, mn
    27099   mower, mn
    27109   olmsted, mn
    27147   steele, mn
    27157   wabasha, mn
```

rochester ny bea
b009 bea
```
    36037   genesee, ny
    36051   livingston, ny
```

rochester ny bea (cont)
```
    36055   monroe, ny
    36069   ontario, ny
    36073   orleans, ny
    36099   seneca, ny
    36117   wayne, ny
    36123   yates, ny
```

rockford il bea
b088 bea
```
    17007   boone, il
    17103   lee, il
    17141   ogle, il
    17177   stephenson, il
    17201   winnebago, il
    55105   rock, wi
```

rocky mount nc bea
wilson nc bea
greenville nc bea
b024 bea
```
    37013   beaufort, nc
    37031   carteret, nc
    37049   craven, nc
    37055   dare, nc
    37065   edgecombe, nc
    37079   greene, nc
    37083   halifax, nc
    37095   hyde, nc
    37103   jones, nc
    37107   lenoir, nc
    37117   martin, nc
    37127   nash, nc
    37131   northampton, nc
    37137   pamlico, nc
    37147   pitt, nc
    37177   tyrrell, nc
    37187   washington, nc
    37191   wayne, nc
    37195   wilson, nc
```

sacramento ca bea
b177 bea
```
    06007   butte, ca
    06011   colusa, ca
    06017   el dorado, ca
    06021   glenn, ca
    06057   nevada, ca
    06061   placer, ca
    06067   sacramento, ca
    06091   sierra, ca
    06101   sutter, ca
    06113   yolo, ca
    06115   yuba, ca
```

```
saginaw mi bea                      salina ks bea (cont)
bay city mi bea                        20195   trego, ks
b072 bea                               20199   wallace, ks
   26001   alcona, mi
   26007   alpena, mi               salt lake city ut bea
   26011   arenac, mi               ogden ut bea
   26017   bay, mi                  b165 bea
   26031   cheboygan, mi               16007   bear lake, id
   26033   chippewa, mi                16041   franklin, id
   26035   clare, mi                   16071   oneida, id
   26039   crawford, mi                49003   box elder, ut
   26051   gladwin, mi                 49005   cache, ut
   26057   gratiot, mi                 49007   carbon, ut
   26063   huron, mi                   49009   daggett, ut
   26069   iosco, mi                   49011   davis, ut
   26073   isabella, mi                49013   duchesne, ut
   26095   luce, mi                    49015   emery, ut
   26097   mackinac, mi                49023   juab, ut
   26111   midland, mi                 49027   millard, ut
   26119   montmorency, mi             49029   morgan, ut
   26129   ogemaw, mi                  49031   piute, ut
   26135   oscoda, mi                  49033   rich, ut
   26137   otsego, mi                  49035   salt lake, ut
   26141   presque isle, mi            49039   sanpete, ut
   26143   roscommon, mi               49041   sevier, ut
   26145   saginaw, mi                 49043   summit, ut
   26157   tuscola, mi                 49045   tooele, ut
                                       49047   uintah, ut
salina ks bea                          49049   utah, ut
b140 bea                               49051   wasatch, ut
   20023   cheyenne, ks                49055   wayne, ut
   20029   cloud, ks                   49057   weber, ut
   20039   decatur, ks                 56023   lincoln, wy
   20041   dickinson, ks               56035   sublette, wy
   20051   ellis, ks                   56037   sweetwater, wy
   20053   ellsworth, ks               56041   uinta, wy
   20063   gove, ks
   20065   graham, ks              san angelo tx bea
   20089   jewell, ks              b128 bea
   20105   lincoln, ks                 48081   coke, tx
   20109   logan, ks                   48095   concho, tx
   20123   mitchell, ks                48105   crockett, tx
   20137   norton, ks                  48235   irion, tx
   20141   osborne, ks                 48267   kimble, tx
   20143   ottawa, ks                  48307   mc culloch, tx
   20147   phillips, ks                48319   mason, tx
   20153   rawlins, ks                 48327   menard, tx
   20157   republic, ks                48383   reagan, tx
   20163   rooks, ks                   48399   runnels, tx
   20167   russell, ks                 48411   san saba, tx
   20169   saline, ks                  48413   schleicher, tx
   20179   sheridan, ks                48431   sterling, tx
   20181   sherman, ks                 48435   sutton, tx
   20183   smith, ks                   48443   terrell, tx
   20193   thomas, ks                  48451   tom green, tx
```

san antonio tx bea
b129 bea

48013	atascosa, tx
48019	bandera, tx
48029	bexar, tx
48091	comal, tx
48127	dimmit, tx
48137	edwards, tx
48163	frio, tx
48171	gillespie, tx
48177	gonzales, tx
48187	guadalupe, tx
48247	jim hogg, tx
48255	karnes, tx
48259	kendall, tx
48265	kerr, tx
48271	kinney, tx
48283	la salle, tx
48311	mc mullen, tx
48323	maverick, tx
48325	medina, tx
48385	real, tx
48463	uvalde, tx
48465	val verde, tx
48479	webb, tx
48493	wilson, tx
48505	zapata, tx
48507	zavala, tx

san diego ca bea
b181 bea

06025	imperial, ca
06073	san diego, ca

san francisco ca bea
oakland ca bea
san jose ca bea
b176 bea

06001	alameda, ca
06013	contra costa, ca
06033	lake, ca
06041	marin, ca
06045	mendocino, ca
06053	monterey, ca
06055	napa, ca
06069	san benito, ca
06075	san francisco, ca
06081	san mateo, ca
06085	santa clara, ca
06087	santa cruz, ca
06095	solano, ca
06097	sonoma, ca

savannah ga bea
savannah bea
b039 bea

13001	appling, ga
13003	atkinson, ga
13005	bacon, ga
13029	bryan, ga
13031	bulloch, ga
13043	candler, ga
13051	chatham, ga
13069	coffee, ga
13103	effingham, ga
13109	evans, ga
13161	jeff davis, ga
13179	liberty, ga
13183	long, ga
13191	mc intosh, ga
13209	montgomery, ga
13251	screven, ga
13267	tattnall, ga
13279	toombs, ga
13305	wayne, ga
45013	beaufort, sc
45049	hampton, sc
45053	jasper, sc

scotts bluff ne bea
b145 bea

31007	banner, ne
31013	box butte, ne
31033	cheyenne, ne
31045	dawes, ne
31049	deuel, ne
31069	garden, ne
31105	kimball, ne
31123	morrill, ne
31157	scotts bluff, ne
31161	sheridan, ne
31165	sioux, ne
56015	goshen, wy

scranton pa bea
wilkes-barre pa bea
b013 bea

42037	columbia, pa
42069	lackawanna, pa
42079	luzerne, pa
42089	monroe, pa
42127	wayne, pa
42131	wyoming, pa

seattle wa bea
b171 bea

53009	clallam, wa
53027	grays harbor, wa
53029	island, wa

```
seattle wa bea (cont)          sioux falls sd bea
    53031  jefferson, wa       b147 bea
    53033  king, wa                19119  lyon, ia
    53035  kitsap, wa              19143  osceola, ia
    53041  lewis, wa               27033  cottonwood, mn
    53045  mason, wa               27063  jackson, mn
    53049  pacific, wa             27081  lincoln, mn
    53053  pierce, wa              27083  lyon, mn
    53055  san juan, wa            27101  murray, mn
    53057  skagit, wa              27105  nobles, mn
    53061  snohomish, wa           27117  pipestone, mn
    53067  thurston, wa            27127  redwood, mn
    53073  whatcom, wa             27133  rock, mn
                                   46003  aurora, sd
shreveport la bea                  46005  beadle, sd
b117 bea                           46011  brookings, sd
    22009  avoyelles, la           46015  brule, sd
    22013  bienville, la           46023  charles mix, sd
    22015  bossier, la             46035  davison, sd
    22017  caddo, la               46043  douglas, sd
    22027  claiborne, la           46053  gregory, sd
    22031  de soto, la             46059  hand, sd
    22043  grant, la               46061  hanson, sd
    22069  natchitoches, la        46067  hutchinson, sd
    22079  rapides, la             46073  jerauld, sd
    22081  red river, la           46077  kingsbury, sd
    22085  sabine, la              46079  lake, sd
    22119  webster, la             46083  lincoln, sd
    22127  winn, la                46087  mc cook, sd
                                   46097  miner, sd
sioux city ia bea                  46099  minnehaha, sd
sioux city bea                     46101  moody, sd
b103 bea                           46111  sanborn, sd
    19035  cherokee, ia            46125  turner, sd
    19047  crawford, ia
    19093  ida, ia             south bend in bea
    19133  morona, ia          south bend bea
    19141  o brien, ia         b075 bea
    19149  plymouth, ia            18039  elkhart, in
    19167  sioux, ia               18049  fulton, in
    19193  woodbury, ia            18085  kosciusko, in
    31003  antelope, ne            18087  lagrange, in
    31027  cedar, ne               18099  marshall, in
    31039  cuming, ne              18141  st joseph, in
    31043  dakota, ne              26021  berrien, mi
    31051  dixon, ne               26027  cass, mi
    31107  knox, ne                26149  st joseph, mi
    31119  madison, ne
    31139  pierce, ne          spokane wa bea
    31167  stanton, ne         b168 bea
    31173  thurston, ne            16009  benewah, id
    31179  wayne, ne               16017  bonner, id
    46009  bon homme, sd           16021  boundary, id
    46027  clay, sd                16035  clearwater, id
    46127  union, sd               16049  idaho, id
    46135  yankton, sd             16055  kootenai, id
```

spokane wa bea (cont)
    16057   latah, id
    16061   lewis, id
    16069   nez perce, id
    16079   shoshone, id
    53001   adams, wa
    53003   asotin, wa
    53013   columbia, wa
    53019   ferry, wa
    53023   garfield, wa
    53043   lincoln, wa
    53051   pend oreille, wa
    53063   spokane, wa
    53065   stevens, wa
    53075   whitman, wa

springfield il bea
decatur il bea
b085 bea
    17017   cass, il
    17021   christian, il
    17039   de witt, il
    17107   logan, il
    17115   macon, il
    17129   menard, il
    17137   morgan, il
    17139   moultrie, il
    17167   sangamon, il
    17171   scott, il
    17173   shelby, il

springfield mo bea
b108 bea
    20001   allen, ks
    20011   bourbon, ks
    20021   cherokee, ks
    20037   crawford, ks
    20099   labette, ks
    20125   montgomery, ks
    20133   neosho, ks
    20205   wilson, ks
    20207   woodson, ks
    29009   barry, mo
    29011   barton, mo
    29039   cedar, mo
    29043   christian, mo
    29057   dade, mo
    29059   dallas, mo
    29067   douglas, mo
    29077   greene, mo
    29085   hickory, mo
    29091   howell, mo
    29097   jasper, mo
    29105   laclede, mo
    29109   lawrence, mo
    29119   mc donald, mo

springfield mo bea (cont)
    29145   newton, mo
    29149   oregon, mo
    29153   ozark, mo
    29167   polk, mo
    29169   pulaski, mo
    29185   st clair, mo
    29203   shannon, mo
    29209   stone, mo
    29213   taney, mo
    29215   texas, mo
    29217   vernon, mo
    29225   webster, mo
    29229   wright, mo
    40035   craig, ok
    40115   ottawa, ok

st louis mo bea
st louis bea
saint louis bea
b107 bea
    17003   alexander, il
    17005   bond, il
    17013   calhoun, il
    17025   clay, il
    17027   clinton, il
    17049   effingham, il
    17051   fayette, il
    17055   franklin, il
    17061   greene, il
    17077   jackson, il
    17079   jasper, il
    17081   jefferson, il
    17083   jersey, il
    17087   johnson, il
    17117   macoupin, il
    17119   madison, il
    17121   marion, il
    17133   monroe, il
    17135   montgomery, il
    17145   perry, il
    17153   pulaski, il
    17157   randolph, il
    17159   richland, il
    17163   st clair, il
    17181   union, il
    17189   washington, il
    17191   wayne, il
    17199   williamson, il
    29017   bollinger, mo
    29023   butler, mo
    29031   cape girardeau, mo
    29035   carter, mo
    29055   crawford, mo
    29065   dent, mo
    29071   franklin, mo

st louis mo bea (cont)
```
    29073  gasconade, mo
    29093  iron, mo
    29099  jefferson, mo
    29113  lincoln, mo
    29123  madison, mo
    29125  maries, mo
    29133  mississippi, mo
    29139  montgomery, mo
    29157  perry, mo
    29161  phelps, mo
    29179  reynolds, mo
    29181  ripley, mo
    29183  st charles, mo
    29187  st francois, mo
    29189  st louis, mo
    29193  ste genevieve, mo
    29201  scott, mo
    29207  stoddard, mo
    29219  warren, mo
    29221  washington, mo
    29223  wayne, mo
    29510  st louis city, mo
```

stockton ca bea
modesto ca bea
b178 bea
```
    06003  alpine, ca
    06005  amador, ca
    06009  calaveras, ca
    06043  mariposa, ca
    06047  merced, ca
    06077  san joaquin, ca
    06099  stanislaus, ca
    06109  tuolumne, ca
```

syracuse ny bea
utica ny bea
b008 bea
```
    36011  cayuga, ny
    36023  cortland, ny
    36033  franklin, ny
    36043  herkimer, ny
    36045  jefferson, ny
    36049  lewis, ny
    36053  madison, ny
    36065  oneida, ny
    36067  onondaga, ny
    36075  oswego, ny
    36089  st lawrence, ny
```

tallahassee fl bea
tallahassee bea
b045 bea
```
    12013  calhoun, fl
    12037  franklin, fl
```

tallahassee fl bea (cont)
```
    12039  gadsden, fl
    12063  jackson, fl
    12065  jefferson, fl
    12073  leon, fl
    12077  liberty, fl
    12079  madison, fl
    12123  taylor, fl
    12129  wakulla, fl
```

tampa fl bea
st petersburg fl bea
b044 bea
```
    12015  charlotte, fl
    12017  citrus, fl
    12021  collier, fl
    12027  de soto, fl
    12049  hardee, fl
    12053  hernando, fl
    12055  highlands, fl
    12057  hillsborough, fl
    12071  lee, fl
    12081  manatee, fl
    12101  pasco, fl
    12103  pinellas, fl
    12105  polk, fl
    12115  sarasota, fl
```

terre haute in bea
terre haute bea
b081 bea
```
    17023  clark, il
    17033  crawford, il
    18021  clay, in
    18121  parke, in
    18153  sullivan, in
    18165  vermillion, in
    18167  vigo, in
```

texarkana tx bea
texarkana bea
b119 bea
```
    05027  columbia, ar
    05057  hempstead, ar
    05061  howard, ar
    05073  lafayette, ar
    05081  little river, ar
    05091  miller, ar
    05099  nevada, ar
    05109  pike, ar
    05133  sevier, ar
    48037  bowie, tx
    48063  camp, tx
    48067  cass, tx
    48277  lamar, tx
    48343  morris, tx
```

texarkana tx bea (cont)
    48387   red river, tx
    48449   titus, tx

toledo oh bea
b070 bea
    26091   lenawee, mi
    26115   monroe, mi
    39051   fulton, oh
    39063   hancock, oh
    39069   henry, oh
    39095   lucas, oh
    39123   ottawa, oh
    39143   sandusky, oh
    39147   seneca, oh
    39173   wood, oh
    39175   wyandot, oh

topeka ks bea
b141 bea
    20027   clay, ks
    20031   coffey, ks
    20061   geary, ks
    20085   jackson, ks
    20087   jefferson, ks
    20111   lyon, ks
    20117   marshall, ks
    20127   morris, ks
    20131   nemaha, ks
    20139   osage, ks
    20149   pottawatomie, ks
    20161   riley, ks
    20177   shawnee, ks
    20197   wabaunsee, ks
    20201   washington, ks

tucson az bea
b161 bea
    04003   cochise, az
    04009   graham, az
    04011   greenlee, az
    04019   pima, az
    04023   santa cruz, az

tulsa ok bea
b138 bea
    40021   cherokee, ok
    40037   creek, ok
    40071   kay, ok
    40091   mc intosh, ok
    40097   mayes, ok
    40101   muskogee, ok
    40103   noble, ok
    40105   nowata, ok
    40111   okmulgee, ok
    40113   osage, ok

tulsa ok bea (cont)
    40117   pawnee, ok
    40119   payne, ok
    40131   rogers, ok
    40143   tulsa, ok
    40145   wagoner, ok
    40147   washington, ok

tyler tx bea
longview tx bea
b120 bea
    48001   anderson, tx
    48005   angelina, tx
    48073   cherokee, tx
    48183   gregg, tx
    48203   harrison, tx
    48213   henderson, tx
    48225   houston, tx
    48315   marion, tx
    48347   nacogdoches, tx
    48365   panola, tx
    48401   rusk, tx
    48405   san augustine, tx
    48419   shelby, tx
    48423   smith, tx
    48459   upshur, tx
    48499   wood, tx

waco tx bea
killeen tx bea
temple tx bea
b124 bea
    48027   bell, tx
    48035   bosque, tx
    48099   coryell, tx
    48145   falls, tx
    48161   freestone, tx
    48193   hamilton, tx
    48217   hill, tx
    48281   lampasas, tx
    48293   limestone, tx
    48309   mc lennan, tx
    48331   milam, tx
    48333   mills, tx

washington dc bea
district of columbia bea
dc bea
b020 bea
    11000   district of columbia
    24009   calvert, md
    24017   charles, md
    24021   frederick, md
    24031   montgomery, md
    24033   prince georges, md
    24037   st marys, md

```
washington dc bea (cont)            wausau wi bea (cont)
    24043  washington, md               55097  portage, wi
    51013  arlington, va                55099  price, wi
    51043  clarke, va                   55119  taylor, wi
    51047  culpeper, va                 55125  vilas, wi
    51059  fairfax, va                  55141  wood, wi
    51061  fauquier, va
    51069  frederick, va            wheeling wv bea
    51099  king george, va          steubenville oh bea
    51107  loudoun, va              weirton oh bea
    51139  page, va                 b063 bea
    51153  prince william, va           39013  belmont, oh
    51157  rappahannock, va             39067  harrison, oh
    51171  shenandoah, va               39081  jefferson, oh
    51177  spotsylvania, va             39111  monroe, oh
    51179  stafford, va                 54009  brooke, wv
    51187  warren, va                   54029  hancock, wv
    51193  westmoreland, va             54051  marshall, wv
    51510  alexandria city, va          54069  ohio, wv
    51600  fairfax city, va             54095  tyler, wv
    51610  falls church city, va        54103  wetzel, wv
    51630  fredericksburg city, va
    51840  winchester city, va      wichita ks bea
    54003  berkeley, wv             b139 bea
    54023  grant, wv                    20007  barber, ks
    54027  hampshire, wv                20009  barton, ks
    54031  hardy, wv                    20015  butler, ks
    54037  jefferson, wv                20017  chase, ks
    54065  morgan, wv                   20019  chautauqua, ks
                                        20025  clark, ks
waterloo ia bea                         20033  comanche, ks
b101 bea                                20035  cowley, ks
    19013  black hawk, ia               20047  edwards, ks
    19017  bremer, ia                   20049  elk, ks
    19019  buchanan, ia                 20055  finney, ks
    19023  butler, ia                   20057  ford, ks
    19033  cerro gordo, ia              20067  grant, ks
    19037  chickasaw, ia                20069  gray, ks
    19065  fayette, ia                  20071  greeley, ks
    19067  floyd, ia                    20073  greenwood, ks
    19069  franklin, ia                 20075  hamilton, ks
    19075  grundy, ia                   20077  harper, ks
    19081  hancock, ia                  20079  harvey, ks
    19083  hardin, ia                   20081  haskell, ks
    19089  howard, ia                   20083  hodgeman, ks
    19131  mitchell, ia                 20093  kearny, ks
    19189  winnebago, ia                20095  kingman, ks
    19195  worth, ia                    20097  kiowa, ks
                                        20101  lane, ks
wausau wi bea                           20113  mc pherson, ks
b093 bea                                20115  marion, ks
    55019  clark, wi                    20119  meade, ks
    55067  langlade, wi                 20129  morton, ks
    55069  lincoln, wi                  20135  ness, ks
    55073  marathon, wi                 20145  pawnee, ks
    55085  oneida, wi                   20151  pratt, ks
```

```
wichita ks bea (cont)                yakima wa bea (cont)
    20155   reno, ks                     53047   okanogan, wa
    20159   rice, ks                     53077   yakima, wa
    20165   rush, ks
    20171   scott, ks                youngstown oh bea
    20173   sedgwick, ks             warren oh bea
    20175   seward, ks               b064 bea
    20185   stafford, ks                 39029   columbiana, oh
    20187   stanton, ks                  39099   mahoning, oh
    20189   stevens, ks                  39155   trumbull, oh
    20191   sumner, ks                   42073   lawrence, pa
    20203   wichita, ks                  42085   mercer, pa

wichita falls tx bea
b126 bea
    48009   archer, tx
    48023   baylor, tx
    48077   clay, tx
    48101   cottle, tx
    48155   foard, tx
    48197   hardeman, tx
    48485   wichita, tx
    48487   wilbarger, tx
    48503   young, tx

williamsport pa bea
b014 bea
    42023   cameron, pa
    42027   centre, pa
    42033   clearfield, pa
    42035   clinton, pa
    42047   elk, pa
    42065   jefferson, pa
    42081   lycoming, pa
    42093   montour, pa
    42097   northumberland, pa
    42109   snyder, pa
    42113   sullivan, pa
    42119   union, pa

wilmington nc bea
b025 bea
    37019   brunswick, nc
    37047   columbus, nc
    37061   duplin, nc
    37129   new hanover, nc
    37133   onslow, nc
    37141   pender, nc

yakima wa bea
b170 bea
    53007   chelan, wa
    53017   douglas, wa
    53025   grant, wa
    53037   kittitas, wa
```

APPENDIX F: STANDARD METROPOLITAN STATISTICAL AREAS

(Many of the Standard Metropolitan Statistical Areas [SMSAs] have several
names. In EIFS, SMSAs can be referenced by any of the names listed here.
Please pay attention to the spelling.)

abilene tx smsa
s0040 smsa
    48059 callahan, tx
    48253 jones, tx
    48441 taylor, tx

akron oh smsa
akron smsa
s0080 smsa
    39133 portage, oh
    39153 summit, oh

albany ga smsa
s0120 smsa
    13095 dougherty, ga
    13177 lee, ga

albany ny smsa
schenectady ny smsa
troy ny smsa
s0160 smsa
    36001 albany, ny
    36057 montgomery, ny
    36083 rensselaer, ny
    36091 saratoga, ny
    36093 schenectady, ny

albuquerque nm smsa
albuquerque smsa
s0200 smsa
    35001 bernalillo, nm
    35043 sandoval, nm

alexandria la smsa
s0220 smsa
    22043 grant, la
    22079 rapides, la

allentown pa smsa
bethlehem pa smsa
easton pa smsa
s0240 smsa
    34041 warren, nj
    42025 carbon, pa
    42077 lehigh, pa
    42095 northampton, pa

altoona pa smsa
altoona smsa
s0280 smsa
    42013 blair, pa

amarillo tx smsa
amarillo smsa
s0320 smsa
    48375 potter, tx
    48381 randall, tx

anaheim ca smsa
santa ana ca smsa
garden grove ca smsa
anaheim smsa
s0360 smsa
    06059 orange, ca

anchorage ak smsa
anchorage smsa
s0380 smsa
    02020 anchorage, ak

anderson in smsa
s0400 smsa
    18095 madison, in

ann arbor mi smsa
ann arbor smsa
s0440 smsa
    26161 washtenaw, mi

anniston al smsa
s0450 smsa
    01015 calhoun, al

appleton wi smsa
oshkosh wi smsa
oshkosh smsa
s0460 smsa
    55015 calumet, wi
    55087 outagamie, wi
    55139 winnebago, wi

```
asheville nc smsa                    baton rouge la smsa
s0480 smsa                           baton rouge smsa
    37021  buncombe, nc              s0760 smsa
    37115  madison, nc                   22005  ascension, la
                                         22033  east baton rouge, la
                                         22063  livingston, la
atlanta ga smsa                          22121  west baton rouge, la
atlanta smsa
s0520 smsa                           battle creek mi smsa
    13035  butts, ga                 battle creek smsa
    13057  cherokee, ga              s0780 smsa
    13063  clayton, ga                   26015  barry, mi
    13067  cobb, ga                      26025  calhoun, mi
    13089  de kalb, ga
    13097  douglas, ga               bay city mi smsa
    13113  fayette, ga               bay city smsa
    13117  forsyth, ga               s0800 smsa
    13121  fulton, ga                    26017  bay, mi
    13135  gwinnett, ga
    13151  henry, ga                 beaumont tx smsa
    13217  newton, ga                port arthur tx smsa
    13223  paulding, ga              orange tx smsa
    13247  rockdale, ga              beaumont smsa
    13297  walton, ga                port arthur smsa
                                     s0840 smsa
atlantic city nj smsa                    48199  hardin, tx
atlantic city smsa                       48245  jefferson, tx
s0560 smsa                               48361  orange, tx
    34001  atlantic, nj
                                     billings mt smsa
augusta ga smsa                      billings smsa
s0600 smsa                           s0880 smsa
    13073  columbia, ga                  30111  yellowstone, mt
    13245  richmond, ga
    45003  aiken, sc                 biloxi ms smsa
                                     gulfport ms smsa
austin tx smsa                       biloxi smsa
austin smsa                          s0920 smsa
s0640 smsa                               28045  hancock, ms
    48209  hays, tx                      28047  harrison, ms
    48453  travis, tx                    28131  stone, ms

bakersfield ca smsa                  binghamton ny smsa
bakersfield smsa                     binghamton smsa
s0680 smsa                           s0960 smsa
    06029  kern, ca                      36007  broome, ny
                                         36107  tioga, ny
                                         42115  susquehanna, pa
baltimore md smsa
baltimore smsa                       birmingham al smsa
s0720 smsa                           birmingham smsa
    24003  anne arundel, md          s1000 smsa
    24005  baltimore, md                 01073  jefferson, al
    24013  carroll, md                   01115  st clair, al
    24025  harford, md                   01117  shelby, al
    24027  howard, md                    01127  walker, al
    24510  baltimore city, md
```

bloomington in smsa
s1020 smsa
   18105 monroe, in

bloomington il smsa
normal il smsa
s1040 smsa
   17113 mc lean, il

boise id smsa
boise smsa
s1080 smsa
   16001 ada, id

boston ma smsa
lowell ma smsa
brockton ma smsa
lawrence ma smsa
haverhill ma smsa
boston smsa
s1123 smsa
   25009 essex, ma
   25017 middlesex, ma
   25021 norfolk, ma
   25023 plymouth, ma
   25025 suffolk, ma
   33015 rockingham, nh

bridgeport ct smsa
stamford ct smsa
norwalk ct smsa
danbury ct smsa
s1163 smsa
   09001 fairfield, ct

brownsville tx smsa
harlingen tx smsa
san benito tx smsa
s1240 smsa
   48061 cameron, tx

bryan tx smsa
college station tx smsa
s1260 smsa
   48041 brazos, tx

buffalo ny smsa
buffalo smsa
s1280 smsa
   36029 erie, ny
   36063 niagara, ny

burlington nc smsa
s1300 smsa
   37001 alamance, nc

burlington vt smsa
s1299 smsa
   50007 chittenden, vt

canton oh smsa
s1320 smsa
   39019 carroll, oh
   39151 stark, oh

cedar rapids ia smsa
cedar rapids smsa
s1360 smsa
   19113 linn, ia

champaign il smsa
urbana il smsa
rantoul il smsa
champaign smsa
s1400 smsa
   17019 champaign, il

charleston sc smsa
north charleston sc smsa
s1440 smsa
   45015 berkeley, sc
   45019 charleston, sc
   45035 dorchester, sc

charleston wv smsa
s1480 smsa
   54039 kanawha, wv
   54079 putnam, wv

charlotte nc smsa
gastonia nc smsa
s1520 smsa
   37071 gaston, nc
   37119 mecklenburg, nc
   37179 union, nc

chattanooga tn smsa
chattanooga smsa
s1560 smsa
   13047 catoosa, ga
   13083 dade, ga
   13295 walker, ga
   47065 hamilton, tn
   47115 marion, tn
   47153 sequatchie, tn

cheyenne wy smsa
cheyenne smsa
s1579 smsa
   56021 laramie, wy

chicago il smsa
chicago smsa
s1600 smsa
    17031   cook, il
    17043   du page, il
    17089   kane, il
    17097   lake, il
    17111   mc henry, il
    17197   will, il

cincinatti oh smsa
cincinatti smsa
s1640 smsa
    18029   dearborn, in
    21015   boone, ky
    21037   campbell, ky
    21117   kenton, ky
    39025   clermont, oh
    39061   hamilton, oh
    39165   warren, oh

clarksville tn smsa
hopkinsville ky smsa
s1660 smsa
    21047   christian, ky
    47125   montgomery, tn

cleveland oh smsa
cleveland smsa
s1680 smsa
    39035   cuyahoga, oh
    39055   geauga, oh
    39085   lake, oh
    39103   medina, oh

colorado springs co smsa
colorado springs smsa
s1720 smsa
    08041   el paso, co
    08119   teller, co

columbia mo smsa
s1740 smsa
    29019   boone, mo

columbia sc smsa
s1760 smsa
    45063   lexington, sc
    45079   richland, sc

columbus ga smsa
s1800 smsa
    01113   russell, al
    13053   chattahoochee, ga
    13510   columbus, ga

columbus oh smsa
s1840 smsa
    39041   delaware, oh
    39045   fairfield, oh
    39049   franklin, oh
    39097   madison, oh
    39129   pickaway, oh

corpus christi tx smsa
corpus christi smsa
s1880 smsa
    48355   nueces, tx
    48409   san patricio, tx

dallas tx smsa
fort worth tx smsa
dallas smsa
fort worth smsa
s1920 smsa
    48085   collin, tx
    48113   dallas, tx
    48121   denton, tx
    48139   ellis, tx
    48221   hood, tx
    48251   johnson, tx
    48257   kaufman, tx
    48367   parker, tx
    48397   rockwall, tx
    48439   tarrant, tx
    48497   wise, tx

davenport ia smsa
rock island il smsa
moline il smsa
davenport smsa
rock island smsa
s1960 smsa
    17073   henry, il
    17161   rock island, il
    19163   scott, ia

dayton oh smsa
dayton smsa
s2000 smsa
    39057   greene, oh
    39109   miami, oh
    39113   montgomery, oh
    39135   preble, oh

daytona beach fl smsa
daytona beach smsa
s2020 smsa
    12127   volusia, fl

decatur il smsa
s2040 smsa
    17115   macon, il

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denver co smsa
boulder co smsa
denver smsa
s2080 smsa
   08001 adams, co
   08005 arapahoe, co
   08013 boulder, co
   08031 denver, co
   08035 douglas, co
   08047 gilpin, co
   08059 jefferson, co

des moines ia smsa
des moines smsa
s2120 smsa
   19153 polk, ia
   19181 warren, ia

detroit mi smsa
detroit smsa
s2160 smsa
   26093 livingston, mi
   26099 macomb, mi
   26125 oakland, mi
   26147 st clair, mi
   26163 wayne, mi

dubuque ia smsa
dubuque smsa
s2200 smsa
   19061 dubuque, ia

duluth mn smsa
superior mn smsa
duluth smsa
s2240 smsa
   27137 st louis, mn
   55031 douglas, wi

eau claire wi smsa
eau claire smsa
s2290 smsa
   55017 chippewa, wi
   55035 eau claire, wi

elmira ny smsa
elmira smsa
s2335 smsa
   36015 chemung, ny

el paso tx smsa
el paso smsa
s2320 smsa
   48141 el paso, tx

erie pa smsa
erie smsa
s2360 smsa
   42049 erie, pa

eugene or smsa
springfield or smsa
eugene smsa
s2400 smsa
   41039 lane, or

evansville in smsa
evansville smsa
s2440 smsa
   18051 gibson, in
   18129 posey, in
   18163 vanderburgh, in
   18173 warrick, in
   21101 henderson, ky

fargo nd smsa
moorhead mn smsa
fargo smsa
moorhead smsa
s2520 smsa
   27027 clay, mn
   38017 cass, nd

fayetteville ar smsa
springdale ar smsa
s2580 smsa
   05007 benton, ar
   05143 washington, ar

fayetteville nc smsa
s2560 smsa
   37051 cumberland, nc

flint mi smsa
flint smsa
s2640 smsa
   26049 genesee, mi
   26087 lapeer, mi
   26155 shiawassee, mi

florence al smsa
s2650 smsa
   01033 colbert, al
   01077 lauderdale, al

fort collins co smsa
fort collins smsa
s2670 smsa
   08069 larimer, co

fort lauderdale fl smsa
hollywood fl smsa
fort lauderdale smsa
s2680 smsa
   12011 broward, fl

fort myers fl smsa
fort myers smsa
s2700 smsa
   12071 lee, fl

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fort smith ar smsa                    greeley co smsa
s2720 smsa                            greeley smsa
    05033  crawford, ar               s3060 smsa
    05131  sebastian, ar                  08123  weld, co
    40079  le flore, ok
    40135  sequoyah, ok               green bay wi smsa
                                      green bay smsa
fort wayne in smsa                    s3080 smsa
fort wayne smsa                           55009  brown, wi
s2760 smsa
    18001  adams, in                  greensboro nc smsa
    18003  allen, in                  winston-salem nc smsa
    18033  de kalb, in                high point nc smsa
    18179  wells, in                  winston-salem smsa
                                      s3120 smsa
fresno ca smsa                            37057  davidson, nc
fresno smsa                               37067  forsyth, nc
s2840 smsa                                37081  guilford, nc
    06019  fresno, ca                     37151  randolph, nc
                                          37169  stokes, nc
gadsden al smsa                           37197  yadkin, nc
s2880 smsa
    01055  etowah, al                 greenville sc smsa
                                      spartanburg sc smsa
gainesville fl smsa                   s3160 smsa
gainesville smsa                          45045  greenville, sc
s2900 smsa                                45077  pickens, sc
    12001  alachua, fl                    45083  spartanburg, sc

galveston tx smsa                     hamilton oh smsa
texas city tx smsa                    middletown oh smsa
galveston smsa                        s3200 smsa
s2920 smsa                                39017  butler, oh
    48167  galveston, tx
                                      harrisburg pa smsa
gary in smsa                          harrisburg smsa
hammond in smsa                       s3240 smsa
east chicago in smsa                      42041  cumberland, pa
gary smsa                                 42043  dauphin, pa
hammond smsa                              42099  perry, pa
east chicago smsa
s2960 smsa                            hartford ct smsa
    18089  lake, in                   new britain ct smsa
    18127  porter, in                 bristol ct smsa
                                      hartford smsa
grand rapids mi smsa                  s3283 smsa
grand rapids smsa                         09003  hartford, ct
s3000 smsa                                09007  middlesex, ct
    26081  kent, mi                       09013  tolland, ct
    26139  ottawa, mi
                                      honolulu hi smsa
great falls mt smsa                   honolulu smsa
great falls smsa                      honolulu ha smsa
s3040 smsa                            s3320 smsa
    30013  cascade, mt                    15003  honolulu, hi
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houston tx smsa                    jersey city nj smsa
houston smsa                       jersey city smsa
s3360 smsa                         s3640 smsa
    48039  brazoria, tx                34017  hudson, nj
    48157  fort bend, tx
    48201  harris, tx              johnson city tn smsa
    48291  liberty, tx            kingsport tn smsa
    48339  montgomery, tx         bristol tn smsa
    48473  waller, tx             s3660 smsa
                                       47019  carter, tn
huntington wv smsa                     47073  hawkins, tn
ashland ky smsa                        47163  sullivan, tn
s3400 smsa                             47171  unicoi, tn
    21019  boyd, ky                    47179  washington, tn
    21089  greenup, ky                 51169  scott, va
    39087  lawrence, oh                51191  washington, va
    54011  cabell, wv                  51520  bristol city, va
    54099  wayne, wv
                                   johnstown pa smsa
huntsville al smsa                 s3680 smsa
huntsville smsa                        42021  cambria, pa
s3440 smsa                             42111  somerset, pa
    01083  limestone, al
    01089  madison, al            kalamazoo mi smsa
    01095  marshall, al           portage mi smsa
                                   kalamazoo smsa
indianapolis in smsa               s3720 smsa
indianapolis smsa                      26077  kalamazoo, mi
s3480 smsa                             26159  van buren, mi
    18011  boone, in
    18057  hamilton, in           kankakee il smsa
    18059  hancock, in            kankakee smsa
    18063  hendricks, in          s3740 smsa
    18081  johnson, in                17091  kankakee, il
    18097  marion, in
    18109  morgan, in             kansas city mo smsa
    18145  shelby, in             kansas city ks smsa
                                   kansas city smsa
jackson mi smsa                    s3760 smsa
s3520 smsa                             20091  johnson, ks
    26075  jackson, mi                 20209  wyandotte, ks
                                       29037  cass, mo
jackson ms smsa                        29047  clay, mo
s3560 smsa                             29095  jackson, mo
    28049  hinds, ms                   29165  platte, mo
    28121  rankin, ms                  29177  ray, mo

jacksonville fl smsa               kenosha wi smsa
jacksonville smsa                  s3800 smsa
s3600 smsa                             55059  kenosha, wi
    12003  baker, fl
    12019  clay, fl
    12031  duval, fl
    12089  nassau, fl
    12109  st johns, fl
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killeen tx smsa               las vegas nv smsa
temple tx smsa                las vegas smsa
killeen smsa                  s4120 smsa
s3810 smsa                        32003  clark, nv
    48027  bell, tx
    48099  coryell, tx        lawton ok smsa
                              s4200 smsa
knoxville tn smsa                 40031  comanche, ok
knoxville smsa
s3840 smsa                    lewiston me smsa
    47001  anderson, tn       auburn me smsa
    47009  blount, tn         s4243 smsa
    47093  knox, tn               23001  androscoggin, me
    47173  union, tn
                              lexington ky smsa
la crosse wi smsa             fayette ky smsa
la crosse smsa                s4280 smsa
s3870 smsa                        21017  bourbon, ky
    55063  la crosse, wi          21049  clark, ky
                                  21067  fayette, ky
lafayette in smsa                 21113  jessamine, ky
west lafayette in smsa            21209  scott, ky
s3920 smsa                        21239  woodford, ky
    18157  tippecanoe, in
                              lima oh smsa
lafayette la smsa             s4320 smsa
s3880 smsa                        39003  allen, oh
    22055  lafayette, la          39011  auglaize, oh
                                  39137  putnam, oh
lake charles la smsa              39161  van wert, oh
s3960 smsa
    22019  calcasieu, la      lincoln nb smsa
                              lincoln smsa
lakeland fl smsa              s4360 smsa
winter haven fl smsa              31109  lancaster, ne
s3980 smsa
    12105  polk, fl           little rock ar smsa
                              north little rock ar smsa
lancaster pa smsa             little rock smsa
s4000 smsa                    s4400 smsa
    42071  lancaster, pa          05119  pulaski, ar
                                  05125  saline, ar
lansing mi smsa
east lansing mi smsa          long branch nj smsa
s4040 smsa                    asbury park nj smsa
    26037  clinton, mi        s4410 smsa
    26045  eaton, mi              34025  monmouth, nj
    26065  ingham, mi
    26067  ionia, mi          longview tx smsa
                              s4420 smsa
laredo tx smsa                    48183  gregg, tx
s4080 smsa                        48203  harrison, tx
    48479  webb, tx
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lorain oh smsa                          mcallen tx smsa
elyria oh smsa                          pharr tx smsa
s4440 smsa                              edinburg tx smsa
   39093  lorain, oh                    s4880 smsa
                                           48215  hidalgo, tx
los angeles ca smsa
long beach ca smsa                      melbourne fl smsa
los angeles smsa                        titusville fl smsa
s4480 smsa                              cocoa fl smsa
   06037  los angeles, ca               s4900 smsa
                                           12009  brevard, fl
louisville ky smsa
louisville smsa                         memphis tn smsa
s4520 smsa                              memphis smsa
   18019  clark, in                     s4920 smsa
   18043  floyd, in                        05035  crittenden, ar
   21029  bullitt, ky                      28033  de soto, ms
   21111  jefferson, ky                    47157  shelby, tn
   21185  oldham, ky                       47167  tipton, tn

lubbock tx smsa                         miami fl smsa
lubbock smsa                            s5000 smsa
s4600 smsa                                 12025  dade, fl
   48303  lubbock, tx
                                        midland tx smsa
lynchburg va smsa                       s5040 smsa
s4640 smsa                                 48329  midland, tx
   51009  amherst, va
   51011  appomattox, va                milwaukee wi smsa
   51031  campbell, va                  milwaukee smsa
   51680  lynchburg city, va            s5080 smsa
                                           55079  milwaukee, wi
macon ga smsa                              55089  ozaukee, wi
macon smsa                                 55131  washington, wi
s4680 smsa                                 55133  waukesha, wi
   13021  bibb, ga
   13153  houston, ga                   minneapolis mn smsa
   13169  jones, ga                     st paul mn smsa
   13289  twiggs, ga                    minneapolis smsa
                                        st paul smsa
madison wi smsa                         s5120 smsa
s4720 smsa                                 27003  anoka, mn
   55025  dane, wi                         27019  carver, mn
                                           27025  chisago, mn
manchester nh smsa                         27037  dakota, mn
nashua nh smsa                             27053  hennepin, mn
s4763 smsa                                 27123  ramsey, mn
   33011  hillsborough, nh                 27139  scott, mn
                                           27163  washington, mn
mansfield oh smsa                          27171  wright, mn
s4800 smsa                                 55109  st croix, wi
   39139  richland, oh
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mobile al smsa                      new bedford ma smsa
mobile smsa                         fall river ma smsa
s5160 smsa                          new bedford smsa
    01003  baldwin, al              fall river smsa
    01097  mobile, al               s5403 smsa
                                        25005  bristol, ma
modesto ca smsa
s5170 smsa                          new brunswick nj smsa
    06099  stanislaus, ca           perth amboy nj smsa
                                    sayreville nj smsa
monroe la smsa                      new brunswick smsa
s5200 smsa                          s5460 smsa
    22073  ouachita, la                 34023  middlesex, nj

montgomery al smsa                  new haven ct smsa
s5240 smsa                          waterbury ct smsa
    01001  autauga, al              meriden ct smsa
    01051  elmore, al               new haven smsa
    01101  montgomery, al           s5483 smsa
                                        09009  new haven, ct
muncie in smsa
s5280 smsa                          new london ct smsa
    18035  delaware, in             norwich ct smsa
                                    new london smsa
muskegon mi smsa                    norwich smsa
norton shores mi smsa               s5523 smsa
muskegon heights mi smsa                09011  new london, ct
muskegon smsa
s5320 smsa                          new orleans la smsa
    26121  muskegon, mi             new orleans smsa
    26127  oceana, mi               s5560 smsa
                                        22051  jefferson, la
nashville tn smsa                       22071  orleans, la
davidson tn smsa                        22087  st bernard, la
nashville smsa                          22103  st tammany, la
s5360 smsa
    47021  cheatham, tn             new york ny smsa
    47037  davidson, tn             new york smsa
    47043  dickson, tn              s5600 smsa
    47147  robertson, tn                34003  bergen, nj
    47149  rutherford, tn               36005  bronx, ny
    47165  sumner, tn                   36047  kings, ny
    47187  williamson, tn               36061  new york, ny
    47189  wilson, tn                   36079  putnam, ny
                                        36081  queens, ny
nassau ny smsa                          36085  richmond, ny
suffolk ny smsa                         36087  rockland, ny
s5380 smsa                              36119  westchester, ny
    36059  nassau, ny
    36103  suffolk, ny              newark nj smsa
                                    newark smsa
                                    s5640 smsa
                                        34013  essex, nj
                                        34027  morris, nj
                                        34035  somerset, nj
                                        34039  union, nj


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newport news va smsa                    owensboro ky smsa
hampton va smsa                         s5990 smsa
newport news smsa                           21059   daviess, ky
s5680 smsa
    51073   gloucester, va             oxnard ca smsa
    51095   james city, va             simi valley ca smsa
    51199   york, va                   ventura ca smsa
    51650   hampton city, va           oxnard smsa
    51700   newport news city, va      s6000 smsa
    51830   williamsburg city, va          06111   ventura, ca

norfolk va smsa                         parkersburg wv smsa
virginia beach va smsa                  marietta oh smsa
portsmouth va smsa                      s6020 smsa
norfolk smsa                                39167   washington, oh
s5720 smsa                                  54105   wirt, wv
    37053   currituck, nc                   54107   wood, wv
    51550   chesapeake city, va
    51710   norfolk city, va           pascagoula ms smsa
    51740   portsmouth city, va        moss point ms smsa
    51800   suffolk city, va           pascagoula smsa
    51810   virginia beach city, va    s6025 smsa
                                            28059   jackson, ms
northeast pennsylvania smsa
ne penn smsa                            paterson nj smsa
s5745 smsa                              clifton nj smsa
    42069   lackawanna, pa             passaic nj smsa
    42079   luzerne, pa                paterson smsa
    42089   monroe, pa                 s6040 smsa
                                            34031   passaic, nj
odessa tx smsa
s5800 smsa                              pensacola fl smsa
    48135   ector, tx                  pensacola smsa
                                        s6080 smsa
oklahoma city ok smsa                       12033   escambia, fl
oklahoma city smsa                          12113   santa rosa, fl
s5880 smsa
    40017   canadian, ok               peoria il smsa
    40027   cleveland, ok              peoria smsa
    40087   mc clain, ok               s6120 smsa
    40109   oklahoma, ok                   17143   peoria, il
    40125   pottawatomie, ok               17179   tazewell, il
                                           17203   woodford, il
omaha nb smsa
omaha smsa                              petersburg va smsa
s5920 smsa                              colonial heights va smsa
    19155   pottawattamie, ia          hopewell va smsa
    31055   douglas, ne                petersburg smsa
    31153   sarpy, ne                  s6140 smsa
                                           51053   dinwiddie, va
orlando fl smsa                            51149   prince george, va
orlando smsa                               51570   colonial heights city, va
s5960 smsa                                 51670   hopewell city, va
    12095   orange, fl                     51730   petersburg city, va
    12097   osceola, fl
    12117   seminole, fl
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philadelphia pa smsa              providence ri smsa
philadelphia smsa                 warwick ri smsa
s6160 smsa                        pawtucket ri smsa
    34005   burlington, nj        providence smsa
    34007   camden, nj            s6483 smsa
    34015   gloucester, nj            44001   bristol, ri
    42017   bucks, pa                 44003   kent, ri
    42029   chester, pa              44007   providence, ri
    42045   delaware, pa             44009   washington, ri
    42091   montgomery, pa
    42101   philadelphia, pa      provo ut smsa
                                  orem ut smsa
phoenix az smsa                   provo smsa
phoenix smsa                      s6520 smsa
s6200 smsa                            49049   utah, ut
    04013   maricopa, az
                                  pueblo co smsa
pine bluff ar smsa                pueblo smsa
pine bluff smsa                   s6560 smsa
s6240 smsa                            08101   pueblo, co
    05069   jefferson, ar
                                  racine wi smsa
pittsburgh pa smsa                racine smsa
pittsburgh smsa                   s6600 smsa
s6280 smsa                            55101   racine, wi
    42003   allegheny, pa
    42007   beaver, pa            raleigh nc smsa
    42125   washington, pa        durham nc smsa
    42129   westmoreland, pa      raleigh smsa
                                  s6640 smsa
pittsfield ma smsa                    37063   durham, nc
s6323 smsa                            37135   orange, nc
    25003   berkshire, ma             37183   wake, nc

portland me smsa                  reading pa smsa
s6403 smsa                        s6680 smsa
    23005   cumberland, me            42011   berks, pa
    23023   sagadahoc, me
                                  reno nv smsa
portland or smsa                  reno smsa
s6440 smsa                        s6720 smsa
    41005   clackamas, or             32031   washoe, nv
    41051   multnomah, or
    41067   washington, or        richland wa smsa
    53011   clark, wa             kennewick wa smsa
                                  s6740 smsa
poughkeepsie ny smsa                  53005   benton, wa
poughkeepsie smsa                     53021   franklin, wa
s6460 smsa
    36027   dutchess, ny          richmond va smsa
                                  richmond smsa
                                  s6760 smsa
                                      51036   charles city, va
                                      51041   chesterfield, va
                                      51075   goochland, va
                                      51085   hanover, va
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richmond va smsa (cont)          st cloud mn smsa
   51087  henrico, va            st cloud smsa
   51127  new kent, va           saint cloud smsa
   51145  powhatan, va           s6980 smsa
   51760  richmond city, va         27009  benton, mn
                                     27141  sherburne, mn
riverside ca smsa                   27145  stearns, mn
san bernardino ca smsa
ontario ca smsa                  st joseph mo smsa
san bernardino smsa              saint joseph mo smsa
s6780 smsa                       s7000 smsa
   06065  riverside, ca             29003  andrew, mo
   06071  san bernardino, ca        29021  buchanan, mo

roanoke va smsa                  st louis mo smsa
roanoke smsa                     st louis smsa
s6800 smsa                       saint louis smsa
   51023  botetourt, va          s7040 smsa
   51045  craig, va                 17027  clinton, il
   51161  roanoke, va               17119  madison, il
   51770  roanoke city, va          17133  monroe, il
   51775  salem city, va            17163  st clair, il
                                     29071  franklin, mo
rochester mn smsa                   29099  jefferson, mo
s6820 smsa                          29183  st charles, mo
   27109  olmsted, mn               29189  st louis, mo
                                     29510  st louis city, mo
rochester ny smsa
s6840 smsa                       salem or smsa
   36051  livingston, ny         s7080 smsa
   36055  monroe, ny                41047  marion, or
   36069  ontario, ny               41053  polk, or
   36073  orleans, ny
   36117  wayne, ny             salinas ca smsa
                                 seaside ca smsa
rockford il smsa                 monterey ca smsa
rockford smsa                    s7120 smsa
s6880 smsa                          06053  monterey, ca
   17007  boone, il
   17201  winnebago, il         salt lake city ut smsa
                                 ogden ut smsa
sacramento ca smsa               salt lake city smsa
sacramento smsa                  s7160 smsa
s6920 smsa                          49011  davis, ut
   06061  placer, ca               49035  salt lake, ut
   06067  sacramento, ca           49045  tooele, ut
   06113  yolo, ca                  49057  weber, ut

saginaw mi smsa                  san angelo tx smsa
saginaw smsa                     s7200 smsa
s6960 smsa                          48451  tom green, tx
   26145  saginaw, mi
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san antonio tx smsa                  seattle wa smsa
san antonio smsa                     everett wa smsa
s7240 smsa                           seattle smsa
    48029  bexar, tx                 s7600 smsa
    48091  comal, tx                     53033  king, wa
    48187  guadalupe, tx                 53061  snohomish, wa

san diego ca smsa                    sherman tx smsa
san diego smsa                       denison tx smsa
s7320 smsa                           s7640 smsa
    06073  san diego, ca                 48181  grayson, tx

san francisco ca smsa                shreveport la smsa
oakland ca smsa                      shreveport smsa
san francisco smsa                   s7680 smsa
s7360 smsa                               22015  bossier, la
    06001  alameda, ca                   22017  caddo, la
    06013  contra costa, ca              22119  webster, la
    06041  marin, ca
    06075  san francisco, ca         sioux city ia smsa
    06081  san mateo, ca             sioux city smsa
                                     s7720 smsa
san jose ca smsa                         19193  woodbury, ia
san jose smsa                            31043  dakota, ne
s7400 smsa
    06085  santa clara, ca           sioux falls sd smsa
                                     sioux falls smsa
santa barbara ca smsa                s7760 smsa
santa maria ca smsa                      46099  minnehaha, sd
lompoc ca smsa
santa barbara smsa                   south bend in smsa
s7480 smsa                           south bend smsa
    06083  santa barbara, ca         s7800 smsa
                                         18099  marshall, in
santa cruz ca smsa                       18141  st joseph, in
s7485 smsa
    06087  santa cruz, ca            spokane wa smsa
                                     spokane smsa
santa rosa ca smsa                   s7840 smsa
s7500 smsa                               53063  spokane, wa
    06097  sonoma, ca
                                     springfield il smsa
sarasota fl smsa                     s7880 smsa
sarasota smsa                            17129  menard, il
s7510 smsa                               17167  sangamon, il
    12115  sarasota, fl
                                     springfield ma smsa
savannah ga smsa                     chicopee ma smsa
savannah smsa                        holyoke ma smsa
s7520 smsa                           s8003 smsa
    13029  bryan, ga                     25013  hampden, ma
    13051  chatham, ga                   25015  hampshire, ma
    13103  effingham, ga
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springfield mo smsa                    texarkana ar smsa
s7920 smsa                             texarkana tx smsa
    29043  christian, mo               texarkana smsa
    29077  greene, mo                  s8360 smsa
                                           05081  little river, ar
springfield oh smsa                        05091  miller, ar
s7960 smsa                                 48037  bowie, tx
    39021  champaign, oh
    39023  clark, oh                   toledo oh smsa
                                       toledo smsa
steubenville oh smsa                   s8400 smsa
weirton wv smsa                            26115  monroe, mi
s8080 smsa                                 39051  fulton, oh
    39081  jefferson, oh                   39095  lucas, oh
    54009  brooke, wv                      39123  ottawa, oh
    54029  hancock, wv                     39173  wood, oh

stockton ca smsa                       topeka ks smsa
s8120 smsa                             topeka smsa
    06077  san joaquin, ca             s8440 smsa
                                           20087  jefferson, ks
syracuse ny smsa                           20139  osage, ks
syracuse smsa                              20177  shawnee, ks
s8160 smsa
    36053  madison, ny                 trenton nj smsa
    36067  onondaga, ny                s8480 smsa
    36075  oswego, ny                      34021  mercer, nj

tacoma wa smsa                         tucson az smsa
tacoma smsa                            tucson smsa
s8200 smsa                             s8520 smsa
    53053  pierce, wa                      04019  pima, az

tallahassee fl smsa                    tulsa ok smsa
tallahassee smsa                       tulsa smsa
s8240 smsa                             s8560 smsa
    12073  leon, fl                        40131  rogers, ok
    12129  wakulla, fl                     40037  creek, ok
                                           40097  mayes, ok
tampa fl smsa                              40113  osage, ok
st petersburg fl smsa                      40143  tulsa, ok
tampa smsa                                 40145  wagoner, ok
s8280 smsa
    12057  hillsborough, fl            tuscaloosa al smsa
    12101  pasco, fl                   tuscaloosa smsa
    12103  pinellas, fl                s8600 smsa
                                           01125  tuscaloosa, al
terre haute in smsa
terre haute smsa                       tyler tx smsa
s8320 smsa                             s8640 smsa
    18021  clay, in                        48423  smith, tx
    18153  sullivan, in
    18165  vermillion, in
    18167  vigo, in
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utica ny smsa                               wheeling wv smsa
rome ny smsa                                wheeling smsa
utica smsa                                  s9000 smsa
s8680 smsa                                      39013   belmont, oh
    36043  herkimer, ny                        54051   marshall, wv
    36065  oneida, ny                          54069   ohio, wv

vallejo ca smsa                             wichita ks smsa
fairfield ca smsa                           wichita smsa
napa ca smsa                                s9040 smsa
s8720 smsa                                      20015   butler, ks
    06055  napa, ca                            20173   sedgwick, ks
    06095  solano, ca
                                            wichita falls tx smsa
vineland nj smsa                            wichita falls smsa
millville nj smsa                           s9080 smsa
bridgeton nj smsa                               48077   clay, tx
s8760 smsa                                      48485   wichita, tx
    34011  cumberland, nj
                                            williamsport pa smsa
waco tx smsa                                s9140 smsa
s8800 smsa                                      42081   lycoming, pa
    48309  mc lennan, tx
                                            wilmington de smsa
washington dc smsa                          s9160 smsa
washington smsa                                 10003   new castle, de
dc smsa                                         24015   cecil, md
district of columbia smsa                       34033   salem, nj
s8840 smsa
    11001  district of columbia, dc         wilmington nc smsa
    24017  charles, md                      s9200 smsa
    24031  montgomery, md                       37019   brunswick, nc
    24033  prince georges, md                   37129   new hanover, nc
    51013  arlington, va
    51059  fairfax, va                      worcester ma smsa
    51107  loudoun, va                      fitchburg ma smsa
    51153  prince william, va               leominster ma smsa
    51510  alexandria city, va              worcester smsa
    51600  fairfax city, va                 s9243 smsa
    51610  falls church city, va                25027   worcester, ma

waterloo ia smsa                            yakima wa smsa
cedar falls ia smsa                         yakima smsa
waterloo smsa                               s9260 smsa
s8920 smsa                                      53077   yakima, wa
    19013  black hawk, ia
                                            york pa smsa
west palm beach fl smsa                     s9280 smsa
boca raton fl smsa                              42001   adams, pa
west palm beach smsa                            42133   york, pa
s8960 smsa
    12099  palm beach, fl                   youngstown oh smsa
                                            warren oh smsa
                                            s9320 smsa
                                                39099   mahoning, oh
                                                39155   trumbull, oh
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APPENDIX G: DEFLATING MONETARY VALUES

Introduction

The stated purpose of the EIFS forecast models is to estimate the economic and social changes that can occur in a region because of various types of military actions. Like most regional economic models, EIFS does this with a series of equations whose parametric values are computed with reference to the year 1972. As a result, technical relationships of the EIFS forecast models reflect the economic conditions of 1972. Among the changes that have occurred in the U.S. economy since 1972, probably the most striking has been the high rate of inflation. Normally, inflation is handled in economic models by deflating current monetary values of model input~ in terms of the model's reference year (1972 in this case).

In its simplest form, a monetary value is the product of price and quantity. Therefore, the task of price deflation is to separate the prices from the quantities within monetary values. The importance of this is easily understood in the context of economic models like EIFS. For example, a military action generally leads to changes in demand for locally produced goods and services; this, in turn, leads to changes in demand for locally available productive requirements through the technical relationships that exist between inputs and outputs. Furthermore, these relationships, combined with the local availability of inputs, determines the magnitude of the secondary economic and social effects. The technical relationships of a region's industrial sector (which are so important here) are, in reality, the physical relationships between the commodities that are manufactured and the things that go into their making. Consequently, it is very important that the input information provided by the user be as consistent with the technical relationships of the EIFS forecast models as possible.

Inflation has two effects on measuring the monetary evaluation of physical quantities that are important for properly using the EIFS forecast models. First, inflation reduces the overall purchasing power of expenditures. Second, inflation alters the mix of commodities purchased by expenditures. That is, although inflation generally affects the prices for all goods and services, some commodities are more affected than others. Thus, the relationship between the prices of commodities changes due to the differential effects of inflation (or as economists like to say, "the relative prices of goods and services change"). As this occurs, consumers and producers purchase more of some things and less of others, especially when some "substitutability" between commodities exists. This happens because consumers and producers attempt to reduce the deleterious effects that inflation has on their general welfare or profit situation.

Thus, to use the EIFS forecast models properly (i.e., to account for the effects of inflation since 1972), a user should restate the user-supplied monetary input information in terms that are consistent with the economic conditions of 1972.

Price Indexes

A price index is a number that indicates a relative change in the price of a commodity over time or that shows the relative change in an average of the prices for several goods over time. Price indexes are compiled with reference to a base year (e.g., 1967) and computed in relation to a standard value (e.g., 1967 = 100). Restating a price index in terms of another base year is done by dividing its current value by the price index for the desired base year. The resultant price index can be stated in terms of a standard value (e.g., new base year = 100) by multiplying it by the standard value.

Arithmetically, deflating monetary values is simple: just multiply the monetary value by the ratio of the standard value to the appropriate price index. If the standard value is equal to one, then deflating a monetary value is computed by dividing the monetary value by the price index. This does not mean that actual physical quantity values have been determined (e.g., bushels of wheat). Instead, the monetary values have been made consistent with the prices that existed during the reference period. That is, the effects of price changes since the base period have been removed, revealing the changes in the physical quantities since the base year (expressed in terms of the prices for the base period).

There are two types of price indexes: commodity price indexes and composite price indexes. A commodity price index is a price index for a specific good or service (such as cotton) or for a narrowly defined group of commodities (e.g., household appliances). Deflating the change in expenditures due to a military action by type of product or by industrial sector permits a user to accurately estimate the relevant change in expenditures, because the differential effects of inflation on the relative prices of goods and services are taken into account. Detailed-level commodity price indexes are published monthly in terms of the prices paid by producers and consumers. An analyst should check with the U.S. Bureau of Labor Statistics for copies of the reports, Producer Prices and Price Indexes and CPI Detailed Report. These reports will contain the latest available commodity price indexes.

Whereas a commodity price index reflects the relative price change for a specific commodity or for a narrowly defined group of goods and services, a composite price index is the average relative change in prices for a broad range of commodities over time. Composite price indexes have been compiled for many groups of commodities (e.g., consumer expenditures, construction expenditures, government purchases, and investment expenditures). Appendix H gives a selected group of commonly used composite price indexes. The latest annual values of these indexes will also be available within EIFS. A good source for many composite price indexes is a current issue of the Survey of Current Business, published by the U.S. Bureau of Economic Analysis.

Because composite price indexes are weighted averages of relative price changes for specific commodities, their proper use depends on whether the quantity weights used in their calculation are relevant to the situation to which they are being applied. They can be useful when applied appropriately, especially to deflate expenditures for which the pattern of commodities purchased is not known; however, they can present problems for impact analysis when they are used improperly. For example, probably the most widely used price index for measuring the overall rate of inflation is the Consumer Price

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Index (CPI). Evidence for this statement is that the CPI is used to determine the change in benefits paid to recipients of programs such as Social Security, Federal Retirement, many State retirement programs, and even some wage contracts negotiated by unions. But there seems to be little understanding of or little attention paid to the procedures used to compile the CPI. Specifically, the CPI is computed using commodity prices paid by urban residents and weighted by an expenditure pattern that existed during the 1972-1973 period. Thus, it seems inappropriate to deflate the consumer expenditures made by residents of a rural area or military installation expenditures for services and supplies using a CPI, because the expenditure pattern for urban residents is not likely to be the same.

An analyst should also be aware of the time period that the quantity weights for the component commodities are chosen. Composite price indexes that are computed using a fixed set of quantity weights are called "fixed-weighted price indexes." Because the quantity weights are held constant over time, the changes observed in the price index result from price changes. However, the indexes computed by permitting the quantity weights to vary from one period to the next are called "implicit price indexes." As a result, both the weights and prices fluctuate, which makes comparing price indexes for two different years difficult. The most appropriate price index will depend on its use. On the one hand, an implicit price index is good for determining the current rate of inflation, because the most recent set of quantity weights is used; thus, price change implied by an implicit price index reflects the average relative price change for the actual set of goods and services most recently purchased. On the other hand, for computing relative price changes over a period of time (e.g., for deflating expenditures), fixed-weighted price indexes would seem most appropriate when they are available.

APPENDIX H: SELECTED COMPOSITE PRICE INDEXES

| | CPI-W | | | DOC Construction |
| | All Items | Less Shelter | PPI | Cost Index |
	(1967 = 100)		(1967 = 100)	(1972 = 100)
1960	88.7	88.9	94.9	63.6
1961	89.6	89.9	94.5	63.5
1962	90.6	90.9	94.8	64.2
1963	91.7	92.1	94.5	64.8
1964	92.9	93.2	94.7	65.9
1965	94.5	94.6	96.6	67.2
1966	97.2	97.4	99.8	69.8
1967	100.0	100.0	100.0	72.4
1968	104.2	104.1	102.5	76.1
1969	109.8	109.0	106.5	82.7
1970	116.3	114.4	110.4	88.6
1971	121.3	119.3	113.9	94.8
1972	125.3	122.9	119.1	100.0
1973	133.1	131.1	134.7	108.7
1974	147.7	146.1	160.1	126.9
1975	161.2	159.1	174.9	138.4
1976	170.5	168.3	183.0	143.9
1977	181.5	179.1	194.2	143.9
1978	195.3	191.3	209.3	175.7
1979	217.4	210.8	235.6	185.2
1980	247.0	235.5	268.8	206.1
1981	272.3	258.5	293.4	219.4
1982	288.6	273.3	299.3	224.8

Source: Selected issues of the Survey of Current Business.

Gross National Product (GNP) Price Indexes
(1972 = 100)

	GNP	Final Sales	PCE	Investment Non Resid.	Investment Resid.	Government Purchases
1960	70.8	70.7	74.1	74.5	74.9	58.3
1961	71.6	71.5	74.8	74.3	74.7	59.5
1962	72.4	72.4	75.5	74.4	73.9	61.3
1963	73.2	73.2	76.3	74.7	72.6	62.8
1964	74.1	74.0	77.2	75.3	72.6	64.4
1965	75.3	75.3	78.2	76.1	73.5	66.2
1966	77.5	77.4	80.1	77.9	75.3	69.2
1967	79.8	79.8	82.0	80.3	77.5	72.4
1968	83.1	83.0	85.0	83.3	81.0	76.4
1969	87.3	87.2	88.7	87.0	87.8	81.3
1970	91.8	91.7	92.7	91.6	90.6	87.9
1971	96.2	96.2	96.6	96.3	94.9	94.0
1972	100.0	100.0	100.0	100.0	100.0	100.0
1973	106.0	105.9	106.1	104.0	109.2	106.9
1974	115.9	115.8	117.1	116.5	120.5	117.9
1975	126.4	126.3	126.3	132.9	131.2	129.2
1976	133.7	133.6	133.0	139.9	140.8	137.3
1977	142.2	142.1	141.2	148.5	158.0	147.0
1978	153.3	153.2	151.6	160.9	178.4	158.4
1979	167.8	167.7	166.3	177.2	200.8	173.2
1980	184.4	184.3	184.8	196.0	219.5	193.8
1981	201.8	201.8	201.6	213.7	235.0	212.2
1982	214.7	214.7	213.2	225.7	242.4	226.4

Source: Selected issues of the Survey of Current Business.

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APPENDIX I: INDUSTRY NAMES AND CODES AVAILABLE FOR CERL-RIMS ANALYSIS

Code	Industry
029999	Agriculture (SIC 01-02)
030000	Forestry & Fishery Products (SIC 081-4,091,097)
040000	Agriculture, Forestry & Fishery Services (SIC 0254,071-3,075-9,085,092)
050000	Iron & Ferroalloy Ores Mining (SIC 101,106)
060100	Copper Ore Mining (SIC 102)
060200	Nonferrous Metal Ores Mining, except Copper (SIC 103-5, pt 108,109)
070000	Coal Mining (SIC 1111,pt 1112,1211,pt 1213)
080000	Crude Petroleum & Natural Gas Mining (SIC 131,132 pt 138)
090000	Stone & Clay Mining & Quarrying (SIC 141-5,pt 148,149)
100000	Chemical & Fertilizer Mineral Mining (SIC 147)
110101	New Residential 1 Unit, Nonfarm (SIC pt 15,pt 17)
110102	New Residential 2-4 Unit, Nonfarm (SIC pt 15,pt 17)
110103	New Residential Garden Apartments (SIC pt 15-17)
110104	New Residential High Rise Apartments (SIC 15-17)
110105	New Residential Add. & Alter., Nonfarm (SIC pt 15, pt 17)
110106	New Hotels & Motels (SIC pt 15-17)
110107	New Dormitories (SIC pt 15,pt 17)
110201	New Industrial Buildings (SIC pt 15-17)
110202	New Office Buildings (SIC pt 15,pt 17)
110203	New Warehouses (SIC pt 15,pt 17)
110204	New Garages & Service Stations (SIC pt 15,pt 17)
110205	New Stores & Restaurants (SIC pt 15,pt 17)
110206	New Religious Buildings (SIC pt 15,pt 17)
110207	New Educational Buildings (SIC pt 15,pt 17)
110208	New Hospitals & Institutional Buildings (SIC pt 15,pt 17)
110209	New Nonfarm Buildings, nec (SIC pt 15,pt 17)
110301	New Telephone & Telegraph Facilities (SIC pt 16,pt 17)
110302	New Railroads (SIC pt 16,pt 17)
110303	New Electric Utility Facilities (SIC pt 16,pt 17)
110304	New Gas Utility Facilities (SIC pt 16,pt 17)
110305	New Petroleum Pipelines (SIC pt 16,pt 17)
110306	New Water Supply Facilities (SIC pt 16,pt 17)
110307	New Sewer System Facilities (SIC pt 16,pt 17)
110308	New Local Transit Facilities (SIC pt 16,pt 17)
110400	New Highways & Streets (SIC pt 16,pt 17)
110501	New Farm Housing Units & Additions (SIC pt 15,pt 17)
110502	New Farm Service Facilities (SIC pt 15,pt 17)
110503	New Petroleum & Natural Gas Well Drilling (SIC pt 138)
110504	New Petroleum, Natural Gas & Solid Mineral Exploration (SIC pt 108,pt 1112,pt 1213,pt 138,pt 148)
110505	New Military Facilities (SIC pt 15-17)
110506	New Conservation & Development Facilities (SIC pt 15-17)
110507	New Nonbuilding Facilities, nec (SIC pt 15-17)
110508	New Access Structures for Solid Mineral Development (SIC pt 108,pt 1112,pt 1213,pt 148)
120100	Maint. & Repair, Residential (SIC pt 15,pt 17)
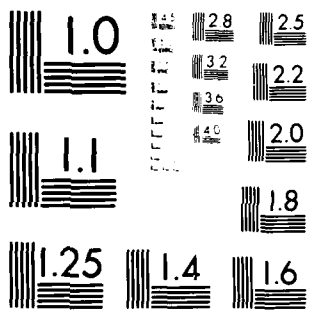
Code	Industry
120201	Maint. & Repair, Nonfarm Buildings, nec (SIC pt 15,pt 17)
120202	Maint. & Repair, Farm Residential (SIC pt 15,pt 17)
120203	Maint. & Repair, Farm Service Facilities (SIC pt 15,pt 17)
120204	Maint. & Repair, Telephone & Telegraph Facilities (SIC pt 16,pt 17)
120205	Maint. & Repair, Railroads (SIC pt 16,pt 17)
120206	Maint. & Repair, Electric Utility Facilities (SIC pt 16,pt 17)
120207	Maint. & Repair, Gas Utility Facilities (SIC pt 16,pt 17)
120208	Maint. & Repair, Petroleum Pipelines (SIC pt 16,pt 17)
120209	Maint. & Repair, Water Supply Facilities (SIC pt 16,pt 17)
120210	Maint. & Repair, Sewer Facilities (SIC pt 16,pt 17)
120211	Maint. & Repair, Local Transit Facilities (SIC pt 16,pt 17)
120212	Maint. & Repair, Military Facilities (SIC pt 15-17)
120213	Maint. & Repair, Conservation & Development Facilities (SIC pt 15-17)
120214	Maint. & Repair, Highways & Streets (SIC pt 16,pt 17)
120215	Maintenance & Repair of Petroleum & Natural Gas Wells (SIC pt 138)
120216	Maint. & Repair, Nonbuilding Facilities, nec SIC pt 15-17)
129999	Other Construction (SIC 15-17)
130100	Complete Guided Missiles (SIC 3761)
130200	Ammunition, except Small Arms (SIC 3483)
130300	Tank & Tank Components (SIC 3795)
130500	Small Arms (SIC 3484)
130600	Small Arms Ammunition (SIC 3482)
130700	Other Ordnance & Accessories (SIC 3489)
140101	Meat Packing Plants (SIC 2011)
140102	Sausages & Other Prepared Meats (SIC 2013)
140103	Poultry Dressing Plants (SIC 2016)
140104	Poultry & Egg Processing (SIC 2017)
140200	Creamery Butter (SIC 2021)
140300	Natural & Processed Cheese (SIC 2022)
140400	Condensed & Evaporated Milk (SIC 2023)
140500	Ice Cream & Frozen Desserts (SIC 2024)
140600	Fluid Milk (SIC 2026)
140700	Canned & Cured Sea Foods (SIC 2091)
140800	Canned Specialties (SIC 2032)
140900	Canned Fruits & Vegetables (SIC 2033)
140100	Dehydrated Food Products (SIC 2034)
141100	Pickles, Sauces & Salad Dressings (SIC 2035)
141200	Fresh & Frozen Packaged Fish (SIC 2092)
141300	Frozen Fruits & Vegetables (SIC 2037-8)
141401	Flour & Other Grain Mills (SIC 2041)
141402	Cereal Preparations (SIC 2043)
141403	Blended & Prepared Flour (SIC 2045)
141501	Dog, Cat & Other Pet Food (SIC 2047)
141502	Prepared Feeds, nec (SIC 2048)
141600	Rice Milling (SIC 2044)
141700	Wet Corn Milling (SIC 2046)
141801	Bread, Cake & Related Products (SIC 2051)
141802	Cookies & Crackers (SIC 2052)
141900	Sugar (SIC 2061-3)
142001	Confectionery Products (SIC 2065)
142002	Chocolate & Cocoa Products (SIC 2066)
142003	Chewing Gum (SIC 2067)

Code	Industry
142101	Malt Liquors (SIC 2082)
142102	Malt (SIC 2083)
142103	Wines, Brandy & Brandy Spirits (SIC 2084)
142104	Distilled Liquor, except Brandy (SIC 2085)
142200	Bottled & Canned Soft Drinks (SIC 2086)
142300	Flavoring Extracts & Syrups, nec (SIC 2087)
142400	Cottonseed Oil Mills (SIC 2074)
142500	Soybean Oil Mills (SIC 2075)
142600	Vegetable Oil Mills, nec (SIC 2076)
142700	Animal & Marine Fats & Oils (SIC 2077)
142800	Roasted Coffee (SIC 2095)
142900	Shortening & Cooking Oils (SIC 2079)
143000	Manufactured Ice (SIC 2097)
143100	Macaroni & Spaghetti (SIC 2098)
143200	Food & Preparations, nec (SIC 2099)
150101	Cigarettes (SIC 211)
150102	Cigars (SIC 212)
150103	Chewing & Smoking Tobacco (SIC 213)
150200	Tobacco Stemming & Redrying (SIC 214)
160100	Broadwoven Fabric Mills & Fabric Finishing (SIC 221-3,2261-2)
160200	Narrow Fabric Mills (SIC 224)
160300	Yarn Mills & Textile Finishing, nec (SIC 2269,2281-3)
160400	Tread Mills (SIC 2284)
170100	Floor Coverings (SIC 227)
170200	Felt Goods, nec (SIC 2291)
170300	Lace Goods (SIC 2292)
170400	Padding & Upholstery Filling (SIC 2293)
170500	Processing Textile Wastes (SIC 2294)
170600	Coated Fabrics, not Rubberized (SIC 2295)
170700	Tire Cord & Fabric (SIC 2296)
170900	Cordage & Twine (SIC 2298)
171001	Nonwoven Fabrics (SIC 2297)
171002	Textile Goods, nec (SIC 2299)
180101	Women's Hosiery, except Socks (SIC 2251)
180102	Hosiery, nec (SIC 2252)
180201	Knit Outerwear Mills (SIC 2253)
180202	Knit Underwear Mills (SIC 2254)
180203	Knitting Mills, nec (SIC 2259)
180300	Knit Fabric Mills (SIC 2257-8)
180400	Apparel Made From Purchased Material (SIC 231-8,39996)
190100	Curtains & Draperies (SIC 2391)
190200	Housefurnishings, nec (SIC 2392)
190301	Textile Bags (SIC 2393)
190302	Canvas Products (SIC 2394)
190303	Pleating & Stitching (SIC 2395)
190304	Automotive & Apparel Trimmings (SIC 2396)
190305	Schiffli Machine Embroideries (SIC 2397)
130306	Fabricated Textile Products, nec (SIC 2399)
200100	Logging Camps & Contractors (SIC 2411)
200200	Sawmills & Planing Mills, General (SIC 2421)
200300	Hardwood Dimension & Flooring Mills (SIC 2426)
200400	Special Product Sawmill, nec (SIC 2429)

Code	Industry
200501	Millwork (SIC 2431)
200502	Wood Kitchen Cabinets (SIC 2434)
200600	Veneer & Plywood (SIC 2435-6)
200701	Structural Wood Members, nec (SIC 2439)
200702	Prefabricated Wood Buildings (SIC 2452)
200800	Wood Preserving (SIC 2491)
200901	Wood Pallets & Skids (SIC 2448)
200902	Particleboard (SIC 2492)
200903	Wood Products, nec (SIC 2499)
210000	Wood Containers (SIC 2441,2449)
220101	Wood Household Furniture (SIC 2511)
220102	Household Furniture, nec (SIC 2519)
220103	Wood TV & Radio Cabinets (SIC 2517)
220200	Upholstered Household Furniture (SIC 2512)
220300	Metal Household Furniture (SIC 2514)
220400	Mattresses & Bedsprings (SIC 2515)
230100	Wood Office Furniture (SIC 2521)
230200	Metal Office Furniture (SIC 2522)
230300	Public Building Furniture (SIC 2531)
230400	Wood Partitions & Fixtures (SIC 2541)
230500	Metal Partitions & Fixtures (SIC 2542)
230600	Blinds, Shades & Drapery Hardware (SIC 2591)
230700	Furniture & Fixtures, nec (SIC 2599)
240100	Pulp Mills (SIC 261)
240200	Paper Mills, except Building Paper (SIC 262)
240300	Paperboard Mills (SIC 263)
240400	Envelopes (SIC 2642)
240500	Sanitary Paper Products (SIC 2647)
240602	Building Paper & Board Mills (SIC 266)
240701	Paper Coating & Glazing (SIC 2641)
240702	Bags, except Textile (SIC 2643)
240703	Die-Cut Paper & Board (SIC 2645)
240704	Pressed & Molded Pulp Goods (SIC 2646)
240705	Stationery Products (SIC 2648)
240706	Converted Paper Products, nec (SIC 2649)
250000	Paperboard Containers & Boxes (SIC 265)
260100	Newspapers (SIC 271)
260200	Periodicals (SIC 272)
260301	Book Publishing (SIC 2731)
260302	Book Printing (SIC 2731)
260400	Misc Publishing (SIC 274)
260501	Commercial Printing (SIC 2751-2,2754)
260502	Lithographic Platemaking & Services (SIC 2795)
260601	Manifold Business Forms (SIC 276)
260602	Blankbooks & Looseleaf Binders (SIC 2782)
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260804	Photoengraving (SIC 2793)
260805	Electrotyping & Stereotyping (SIC 2794)
270100	Industrial Inorganic & Organic Chemicals (SIC 281,2865,2899)

Code	Industry
270201	Nitrogenous & Phosphatic Fertilizers (SIC 2873-4)
270202	Fertilizers, Mixing Only (SIC 2875)
270300	Agricultural Chemicals, nec (SIC 2879)
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300000	Paints & Allied Products (SIC 285)
310100	Petroleum Refining & Misc Products of Petroleum & Coal (SIC 291,299)
310200	Paving Mixtures & Blocks (SIC 2951)
310300	Asphalt Felts & Coatings (SIC 2952)
320100	Tires & Inner Tubes (SIC 301)
320200	Rubber & Plastic Footwear (SIC 302)
320301	Reclaimed Rubber (SIC 303)
320302	Fabricated Rubber Products, nec (SIC 306)
320400	Misc Plastic Products (SIC 307)
320500	Rubber & Plastic Hose & Belting (SIC 304)
330001	Leather Tanning & Finishing (SIC 311)
340100	Footwear Cut Stock (SIC 313)
340201	Shoes, except Rubber (SIC 3143-3,3149)
340202	House Slippers (SIC 3142)
340301	Leather Gloves & Mittens (SIC 315)
340302	Luggage (SIC 316)
340303	Women's Handbags & Purses (SIC 3171)
340304	Personal Leather Goods (SIC 3172)
340305	Leather Goods, nec (SIC 319)
350100	Glass & Glass Products, except Containers (SIC 321,3229,323)
350200	Glass Containers (SIC 3221)
360100	Hydraulic Cement (SIC 324)
360200	Brick & Structural Clay Tile (SIC 3251)
360300	Ceramic Wall & Floor Tile (SIC 3252)
360400	Clay Refractories (SIC 3255)
360500	Structural Clay Products, nec (SIC 3259)
360600	Vitreous Plumbing Fixtures (SIC 3261)
360701	Vitreous China Food Utensils (SIC 3262)
360702	Fine Earthenware Food Utensils (SIC 3263)
360800	Porcelain Electrical Supplies (SIC 3264)
360900	Pottery Products, nec (SIC 3269)
361000	Concrete Block & Brick (SIC 3271)
361100	Concrete Products, nec (SIC 3272)

Code	Industry
361200	Ready-Mixed Concrete (SIC 3273)
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370104	Cold Finishing of Steel Shapes (SIC 3316)
370105	Steel Pipe & Tubes (SIC 3317)
370200	Iron & Steel Foundries (SIC 332)
370300	Iron & Steel Forgings (SIC 3462)
370401	Metal Heat Treating (SIC 3398)
370402	Primary Metal Products, nec (SIC 3399)
380100	Primary Copper (SIC 3331)
380200	Primary Lead (SiC 3332)
380300	Primary Zinc (SIC 3333)
380400	Primary Aluminum (SIC 3334,28195)
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380900	Nonferrous Rolling & Drawing, nec (SIC 3356)
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381300	Nonferrous Castings, nec (SIC 3369)
381400	Nonferrous Forgings (SIC 3463)
390100	Metal Cans (SIC 3411)
390200	Metal Barrels, Drums & Pails (SIC 3412)
400100	Metal Sanitary Ware (SIC 3431)
400200	Plumbing Fixtures, Fittings & Trim (SIC 3432)
400300	Heating Equipment, except Electrical (SIC 3433)
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410100	Screw Machine Products & Bolts, Nuts, Rivets, & Washers (SIC 345)
410201	Automotive Stampings (SIC 3465)
410202	Crowns & Closures (SIC 3466)
410203	Metal Stampings, nec (SIC 3469)
410100	Cutlery (SIC 3421)
420201	Hand & Edge Tools, nec (SIC 3432)

Code	Industry
420202	Hand Saws & Saw Blades (SIC 3425)
420300	Hardware, nec (SIC 3429)
420401	Plating & Polishing (SIC 3471)
420402	Metal Coating & Allied Services (SIC 3479)
420500	Misc Fabricated Wire Products (SIC 3495-6)
420700	Steel Springs, except Wire (SIC 3493)
420800	Pipe, Valves & Pipe Fittings (SIC 3494,3498)
421000	Metal Foil & Leaf (SIC 3497)
421100	Fabricated Metal Products, nec (SIC 3499)
430100	Steam Engines & Turbines (SIC 3511)
430200	Internal Combustion Engines, nec (SIC 3519)
440001	Farm Machinery & Equipment (SIC 3523)
440002	Lawn & Garden Equipment (SIC 3524)
450100	Construction Equipment & Machinery (SIC 3531)
450200	Mining Machinery, except Oil Field (SIC 3532)
450300	Oil Field Machinery (SIC 3533)
460100	Elevators & Moving Stairways (SIC 3534)
460200	Conveyors & Conveying Equipment (SIC 3535)
460300	Hoists, Cranes & Monorails (SIC 3536)
460400	Industrial Trucks & Trailers (SIC 3537)
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470200	Metal Forming Machine Tools (SIC 3542)
470300	Special Dies & Tools: Machine Tool Accessories (SIC 3544-5)
470401	Power Driven Hand Tools (SIC 3546)
470402	Rolling Mill Machinery (SIC 3547)
470403	Metalworking Machinery, nec (SIC 3549)
480100	Food Products Machinery (SIC 3551)
480200	Textile Machinery (SIC 3552)
480300	Woodworking Machinery (SIC 3553)
480400	Paper Industries Machinery (SIC 3554)
480500	Printing Trades Machinery (SIC 3555)
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490100	Pumps & Compressors (SIC 3561,3563)
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520500	Service Industry Machines, nec (SIC 3589)
530100	Instruments to Measure Electricity (SIC 3825)

Code	Industry
530200	Transformers (SIC 3612)
530300	Switchgear & Switchboard Apparatus (SIC 3613)
530400	Motors & Generators (SIC 3621)
530500	Industrial Controls (SIC 3622)
530600	Welding Apparatus, Electric (SIC 3623)
530700	Carbon & Graphite Products (SIC 3624)
530800	Electrical Industrial Apparatus, nec (SIC 3629)
540100	Household Cooking Equipment (SIC 3631)
540200	Household Refrigerators & Freezers (SIC 3632)
540300	Household Laundry Equipment (SIC 3633)
540400	Electric Housewares & Fans (SIC 3634)
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610500	Motorcycles, Bicycles & Parts (SIC 375)
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620700	Watches, Clocks & Parts (SIC 387)
630100	Optical Instruments & Lenses (SIC 383)
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Code	Industry
630300	Photographic Equipment & Supplies (SIC 386)
640101	Precious Metal Jewelry (SIC 3911)
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680200	Gas Utilities (SIC 492,pt 493)
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720200	Personal & Repair Services, nec (SIC 72, excl 723-4,762-4,pt 7699)
720300	Beauty & Barber Shops (SIC 723-4)
730100	Misc Business Services (SIC 732-9,excl 7369,7692,7694,pt 7699)
730200	Advertising (SIC 731)
730300	Misc Professional Services (SIC 81,89, excl 8922)
740000	Eating & Drinking Places (SIC 58,pt 70)
750000	Automobile Repair & Services (SIC 75)
760100	Motion Pictures (SIC 78)
760200	Amusement & Recreation Services (SIC 79)
770100	Doctors & Dentists (SIC 801-3,8041)

Code	Industry
770200	Hospitals (SIC 806)
770300	Other Medical & Health Services (SIC 074,8049,805,807-9)
770400	Educational Services (SIC 82)
770500	Nonprofit Organizations (SIC 84,86,8922)
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The Economic Impact Forecast System (EIFS) is a computer system which
provides information useful for estimating the socioeconomic impacts caused by
new military projects and activities. After the initial development of EIFS,
the U.S. Army Construction Engineering Research Laboratory (CERL) encouraged
leading economists and scientists to review the model and provide comments and
suggestions for ways to improve it. These suggestions were then incorporated
into an updated version of the system. In addition, interaction with users
identified problems associated with the logistics of using a truly interactive

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computer system.   Coupled with the need to provide for some systematic update
or modification of EIFS (free of the need for frequent revision of the user
manual), it became clear that a more general and logistically oriented user's
manual was necessary.   This report provides information for obtaining and
initially interp eting output from current and future versions of EIFS.   The
information contained in this report supersedes information contained in CERL
Technical Report N-2 and the 1979 edition of N-69.   Many problems identified
by users in interpreting Technical Report N-69 and DA Pamphlet 200-2 have been
solved in this updated report.

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