MINUTES OF THE ___House___ COMMITTEE ON ___Appropriations___

The meeting was called to order by ___Bill Bunten___ at
Chairperson

___12:15___ a.m/p.m. on ___April 2___, 19_90_ in room ___514-S___ of the Capitol.

All members were present except: Representative Wisdom (excused)

Committee staff present: Ellen Piekalkiewicz, Debra Duncan, Julian Efird,
                            Legislative Research Department
                            Jim Wilson, Revisor of Statutes
                            Sharon Schwartz, Administrative Aide
                            Sue Krische, Committee Secretary

Conferees appearing before the committee:

Mr. Robert LaMacchia, Geography Division, U.S. Census Bureau
John Wine, Assistant Secretary of State, State of Kansas
Al Nemec, Commissioner, Mental Health and Retardation Services, SRS
Jan Allen, Commissioner, Adult Services, SRS
Marilyn Bradt, Kansans for Improvement of Nursing Homes
John Grace, President, Kansas Association of Homes for the Aging
Yo Bestgen, Executive Director, Kansas Association of Rehabilitation
        Facilities

Others attending: See attached list.

Mr. Robert LaMacchia, Geography Division, U.S. Census Bureau,
addressed the Committee on the U.S. Census Bureau's Topologically
Integrated Geographic Encoding and Referencing System (TIGER)
and its possible applications to a Kansas Geographic Information
System (GIS). He provided written material describing the
development of the TIGER data base which will be used to collect,
tabulate, and report the 1990 Census data (Attachment 1).
The TIGER data base will be provided to the State Data Center
which, in Kansas, is the State Library.

In response to a question, Mr. Joe Harkins, Kansas Water Office,
advised that the U.S. Census data and the U.S. Geological Survey
base maps Mr. LaMacchia described are on the state's priority
list for acquisition. He stated this data base would not be
duplicated elsewhere once accessed from the Census Bureau.

HB 3109 - Validation of bond election.

Representative Goossen explained that HB 3109 validates a bond
election held in the city of Burns, Kansas. Representative
Goossen moved that HB 3109 be recommended favorably for passage.
Representative Heinemann seconded. Motion carried.

SB 730 - Uniform commercial code fees for filings and information
         requests.

John Wine, Assistant Secretary of State, explained that SB 730
amends sections of the Uniform Commercial Code and prescribes
an increase in the maximum for fees assessed by the Secretary
of State's office for filing documents and making information
requests (Attachment 2). Representative Vancrum moved that
SB 730 be recommended favorably for passage. Representative
Francisco seconded. Motion carried.

MINUTES OF THE ___House___ COMMITTEE ON ___Appropriations___,

room __514-S_ Statehouse, at __12:15__ a.m./p.m. on _____April 2_____, 19_90.

SB 731 - Secretary of state imprest fund.

John Wine, Assistant Secretary of State, stated that SB 731
was recommended by the Division of Legislative Post Audit after
conducting an audit of the Secretary of State's office (Attachment 3).
SB 731 raises the Secretary of State's imprest fund from $4,000
to $10,000. The fund is used to issue refunds to customers
who have made over-payments for services or filings. Representative
Chronister moved that the increase in the imprest fund of the
Secretary of State come out of FY91 appropriations and the
portion from fee funds would be in addition to any expenditure
limitation imposed on such fee funds. Representative Solbach
seconded. Motion carried. Representative Teagarden moved
that SB 731, as amended, be recommended favorably for passage.
Representative Pottorff seconded. Motion carried.

HB 2578 - Governor's commission on mental retardation services.

Al Nemec, Commissioner, Mental Health and Retardation Services,
SRS, appeared in support of HB 2578 and provided written testimony
(Attachment 4). HB 2578 establishes a Governor's Commission
on Mental Retardation Services. Commissioner Nemec's testimony
included several suggestions for amendments to HB 2578.

Yo Bestgen, Executive Director, Kansas Association of Rehabilitation
Facilities, testified in support of HB 2578 and would support
some of the amendments suggested by Commissioner Nemec, such
as, renaming the group the "Governor's Commission on Mental
Retardation and other Developmental Disabilities", increasing
the number of advocates on the Commission to four, and adding
the provision that visits be required at community programs
along with state institutions already specified.

Chairman Bunten appointed a special subcommittee of Representative
Heinemann, chairman, Representative Goossen and Representative
Helgerson to consider the proposed amendments to SB 2578 and
offer a recommendation to the full Committee. Representative
Francisco suggested that the provision requiring reports sent
to each member of the Legislature be changed to simply having
a report sent to the Legislature.

HB 3108 - Adult care homes, mandatory pre-admission screening
        by SRS.

Jan Allen, Commissioner, Adult Services, SRS, explained that
HB 3108 amends K.S.A. 39-778 to provide for the screening of
all persons before they are admitted to an Adult Care Home
by the Secretary of SRS (Attachment 5). The Department supports
the concept of HB 3108. Commissioner Allen suggested language
in Section 3 of the bill that would allow implementation of
this program as soon as possible after July 1, 1990. Representative
Solbach asked if we could determine the savings resulting from
passage of this bill. Commissioner Allen stated if the program
would delay 120 persons from adult care homes for six months,
the savings would be $900,000.

Marilyn Bradt, Kansans for Improvement of Nursing Homes (KINH),
appeared in support of HB 3108 stating that mandatory screening
of all persons applying for adult care home placement provides
an opportunity to advise people of alternatives if appropriate
(Attachment 6). Ms. Bradt stated KINH supports the state paying
the cost of all screening.

CONTINUATION SHEET

MINISTRY OF THE ____House____ COMMITTEE ON _____Appropriations_____,

room __514-S__, Statehouse, at __12:15__ x̶.x̶x̶/p.m. on _____April 2_____, 19__90__.

John Grace, President, Kansas Association of Homes for the
Aging, appeared on HB 3108 and provided written testimony (Attachment 7).
Mr. Grace proposed an amendment providing for provisional admittance
to a care home pending screening.

Representative Shriver moved that HB 3108 be amended to add
the language, "(b) notwithstanding the provision of subsection
(a), a person may be provisionally admitted to an adult care
home pending the implementation of screening, evaluation and
referral services provided by the Secretary." Representative
Chronister seconded. Motion carried. Representative Goossen,
whose subcommittee requested this bill, stated he feels this
bill needs further consideration before passage to determine
costs and to insure availability of adequate home care services.

HB 3106 - SRS, home and community-based services, limits on
           new ICF/MR beds.

Al Nemec, Commissioner, Mental Health and Retardation Services,
SRS, testified in support of HB 3106 (Attachment 8). HB 3106
provides the Secretary of SRS the authority to adopt limits
on the number of ICF/MR certified beds. Commissioner Nemec
recommended some minor amendments to the bill in his testimony.
Representative Shriver stated he requested introduction of
this bill because it is similar to a proviso the Senate put
in the appropriation bill and he feels the matter should be
debated and handled in statute.

Yo Bestgen, Executive Director, Kansas Association of Rehabilitation
Facilities, appeared in opposition to HB 3106 enumerating a
number of issues for consideration in her written testimony
(Attachment 9).

Representative Teagarden moved that the minutes of February 27,
and March 2, 5, 6, and 7, 1990 be approved as presented. Representative
Fuller seconded. Motion carried.

The meeting was adjourned at 2:10 p.m.

GUEST LIST

COMMITTEE: HOUSE APPROPRIATIONS   DATE: 4-2-90

NAME (PLEASE PRINT)	ADDRESS	COMPANY/ORGANIZATION
John Wine	Topeka	Sec. of St
Joan Adam	Atchison	Legislature
Valerie Carter	Topeka	Leg. Research
Marty Kennedy	Topeka	Budget
Joe Harkins	Topeka	Ks. Water Office
Jim Parker	Topeka	DISC
Gerry Wedel	Topeka	KWO
Bob Buchholder	Buhler	AARP
Joan P. Noonan	Manhattan	AARP.
Randy Foster	Topeka	Sec of State
Brad Bryant	"	"
George F. McCleary, Jr.	Lawrence	University of Kansas
Ken Grotewiel	Wichita	Legislature
Anne Snowbarger	Olathe	Legislature

Census Promotion Office
Information Services
(301) 763-1990

For Immediate Release
CB89-N90.05

Robert Marx
(301) 763-5636

THERE'S A TIGER IN THE 1990 CENSUS PLANS

A TIGER inside the computers at the Commerce Department's Census Bureau is speeding and improving preparatory work for the 1990 census.

TIGER is an acronym for the bureau's Topologically Integrated Geographic Encoding and Referencing System. Using TIGER the bureau has adapted computer-readable (digital) map information from the U.S. Geological Survey to produce the first complete, large-scale map set in U.S. history.

The TIGER File is an automated description of every known road, river, railroad, and boundary feature in the nation and other territories where the bureau conducts a census.

HA
4-2-90
Attachment 1

With the TIGER File, the bureau will produce maps for more than 300,000 field enumerators (census takers) to use in data collection activities for the 1990 census. Related maps, available to the public, show 1990 census blocks along with boundaries, names, and numeric codes for townships, cities, and census tracts.

The TIGER system provides the capability of computer-assigning residential and business mailing addresses so that enumerators can validate mailing lists and visit households that do not respond to the census by mail. The system also provides the ability to rapidly update map features and boundaries when enumerators report new housing developments or local officials report changes in their boundaries.

The TIGER File also will be available to help businesses, local governments, and others outside the bureau use automated mapping to solve problems.

TIGER is a major advance over the laborious, manual mapmaking processes of the past that made it difficult and awkward for the Census Bureau to make map changes after they were sent to the field.

Census Day is April 1, 1990. The bureau predicts there will be about 250 million people and about 106 million housing units. TIGER will be an important tool in counting them.

*Note to editors: Fact Sheet on TIGER is attached.

-X-

April 20, 1989

THE TIGER SYSTEM: A REVOLUTIONARY COMPUTERIZED MAP DATA BASE OF THE UNITED STATES

The U.S. Census Bureau, in cooperation with the U.S. Geological Survey, has developed a major new digital (computer-readable) map data base that automates the mapping and related geographic activities required to support the census and sample survey programs of the Census Bureau beginning with the 1990 decennial census. This digital data base contains an automated description of the physical and boundary features of the entire United States, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Marianas Islands.

This computerized data base is known as the TIGER (Topologically Integrated Geographic Encoding and Referencing) System. The goal to automate the Census Bureau's full range of cartographic and geographic support processes to serve the data collection, tabulation and dissemination needs of the 1990 census was set in 1981.

A brief explanation of TIGER

• **T**opologically -- Topology is the scientific explanation of how points and lines on a map relate to one another to define a geographic area.

• **I**ntegrated -- The TIGER File is the computer data base at the core of the TIGER System; it relates, or integrates, the automated description of our portion of the Earth's physical and boundary features. The topological structure of the TIGER File defines the location and relationship of streets, rivers, railroads, and so forth to one another and to the numerous geographic areas for which the Census Bureau tabulates data from its censuses and sample surveys. This essential geographic information no longer exists only on separate, independent maps and lists; rather, it is part of a single computer data base.

• **G**eographic -- The TIGER File is the repository for storing the automated description of the geographic structure the Census Bureau uses to conduct its censuses and sample surveys. This computer data base includes all census-relevant information regarding our portion of the Earth's surface as described above. A major goal of the TIGER System is to assure no duplication or inconsistency of features and areas.

• Encoding -- Encoding is the process of representing the essential United States geographic information in computer-readable form. The process of building the TIGER File involves adapting a variety of encoding techniques such as automated map scanning, manual map digitizing, standard data keying, and sophisticated computer file matching.

• Referencing -- Both the Census Bureau and the nation benefit from the effort involved in developing the TIGER System. Having automated access to and retrieval of the census-relevant geographic information about the United States assures consistency of results and will prevent much of the confusion that bureau staff and data users experienced in dealing with maps and geographic classifications after the 1980 decennial census. The TIGER File is one of the largest integrated, automated geographic data bases in the world.

Geography and the Census Bureau

The success of a census rests not only on collecting data, but also on linking those data to geographic areas. The geographic areas for which the Census Bureau tabulates data range from entire states to small villages and even individual city blocks. Census maps show the streets, railroads, streams, and other types of features an enumerator expects to see while collecting data for an area and that data users need to employ the tabulated information effectively and efficiently.

The computer-readable maps the Census Bureau received from the USGS did not have any street or river names on them, only lines. Such maps are not useful for census enumerators, nor would they be useful for most census data users. To prepare the computer files from the USGS for the update stage, the bureau's Geography Division used the agency's mainframe computer to merge, or vertically integrate, the separate layers of information -- roads, water, railroads, and other transportation lines -- with a digital county boundary file created following the 1980 census.

To gather the additional information necessary to make a useful map base, the Census Bureau established a core geographic support staff in each of its 12 regional offices. This staff worked actively with state, American Indian reservation, county, and local officials to identify, evaluate, and acquire maps and to update source materials that show new development and the names of the features on the map.

Using and Enhancing the TIGER System

In order to validate and improve the TIGER System's street information, feature names, address ranges for major urban areas, and geographic area boundaries, the Geography Division is using the file to support a number of precensus events.

Several activities for the 1990 census provide an excellent opportunity for continuing improvement of the TIGER File. For example, the TIGER System offers the potential for rapid updating of legal boundaries when local officials report changes as part of the Boundary and Annexation Survey or Local Review Program. With the maps in computer-readable form, the Census Bureau can add needed boundary changes quickly and produce corrected maps for later operations. This is a major advance over the laborious, traditional mapmaking process that made it extremely difficult for the bureau to make map changes after the maps were sent to the field for the 1980 and earlier censuses.

For the 1990 decennial census, the bureau will use the TIGER System to prepare individual maps for more than 3,000 counties and statistically equivalent areas, and more than 300,000 separate enumerator assignment areas.

TIGER/Line File

The TIGER/Line File, now available to data users, is an extract of selected geographic and cartographic information from the TIGER data base. The normal geographic coverage for a TIGER/Line File is a county. Each file contains appropriate census geographic area codes, latitude/longitude coordinates, the name and type of the feature, the relevant census feature class code identifying the feature segment by category and, for portions of metropolitan and highly populated areas, the address ranges and associated ZIP Codes for each side of a street segment. The files can be combined to cover the whole nation.

The precensus version of this file enables demographic and other data users to know, in advance of the census, the collection boundaries for the geographic areas for which the 1990 census data will be available. This means data users will be able to start aggregating local data to the 1990 census geographic area codes before they receive the 1990 data.

These precensus files will contain 1988 political boundaries obtained from the bureau's Boundary and Annexation Survey and block numbers the enumerators will use for 1990 decennial census data collection activities. The bureau also will release a postcensus version of the TIGER/Line files that will show true final 1990 census boundaries and block numbers used for data tabulation.

While the TIGER/Line Files replace the 1980 GBF/DIME Files in areas with such files, they cover all counties with greater content in the type of information contained. The files are available from the Census Bureau's Data User Services Division, Room 407, Washington Plaza, Washington, D.C., 20233. DUSD's phone number is (301) 763-1580.

BIA School District Codes

California

Sherman Indian High School	88100

Florida

Ahfachkee	88110
Miccosuke Indian	88111

Idaho

Coeur d'Alene Tribal	88150
Shoshone-Bannock Alternative	88151

Iowa

Sac &Fox Settlement	88160

Kansas

Kickapoo Nation	88170

Louisiana

Chitimacha	88190

Maine

Beatrice Rafferty	88200
Indian Island	88201
Indian Township	88202

Michigan

Hannahville Indian	88210

What is a Geographic Information System?

A geographic information system (GIS) is a tool for storing and manipulating geographic information in a computer

Once maps and related data are in the computer, you can ask questions of the data base and manipulate, analyze, and display geographic information with a speed and a set of functions not otherwise possible.

A GIS provides a way to display tabular data graphically; sometimes the spatial display of data provides a "picture" that is difficult to visualize from a set of data tabulations or simple charts and graphs.

Typical applications for a GIS:

Legislative

>   Redistricting
>   Bill impact analysis
>   Constituent services

General Planning:

>   Display/analyze census/other data
>   Housing stock analysis
>   General plan development/analysis
>   Development impact analysis

Transportation Planning:

>   Transportation network analysis
>   Pavement management
>   Accident reporting/analysis

Emergency Services

>   911 Systems
>   Vehicle dispatching
>   Vehicle monitoring
>   Disaster Impact Analysis

Natural Resources

>   Soils analysis
>   Water quality analysis
>   Crop yield analysis

Environmental Planning

>   Hazardous waste routing
>   Air quality analysis
>   Water quality management planning

Planned Versions of the TIGER/Line Files

Version	Dates Available	Vintage of Governmental Unit Boundaries	Feature/Feature Name/ Address Range Updates	Voting District Codes
Prototype	Feb-Apr 1989	1980	All Counties (Initial TIGER File Building Operation)	No
Precensus	Oct-Dec 1989	1980 and 1988	528 Counties (Major Urban Areas Vendor Address List Matching/Resolution)	No
Initial Voting District Codes	Aug-Oct 1990	1980 and 1990 (Initial)	2,512 Counties (Prelist/Precanvass/ Initial Local Official)	Yes (Initial)
1990 Census	Jan-Mar 1991	1980 and 1990 (Final)	All Counties (List Enumerate/ Final Local Official)	Yes (Final)
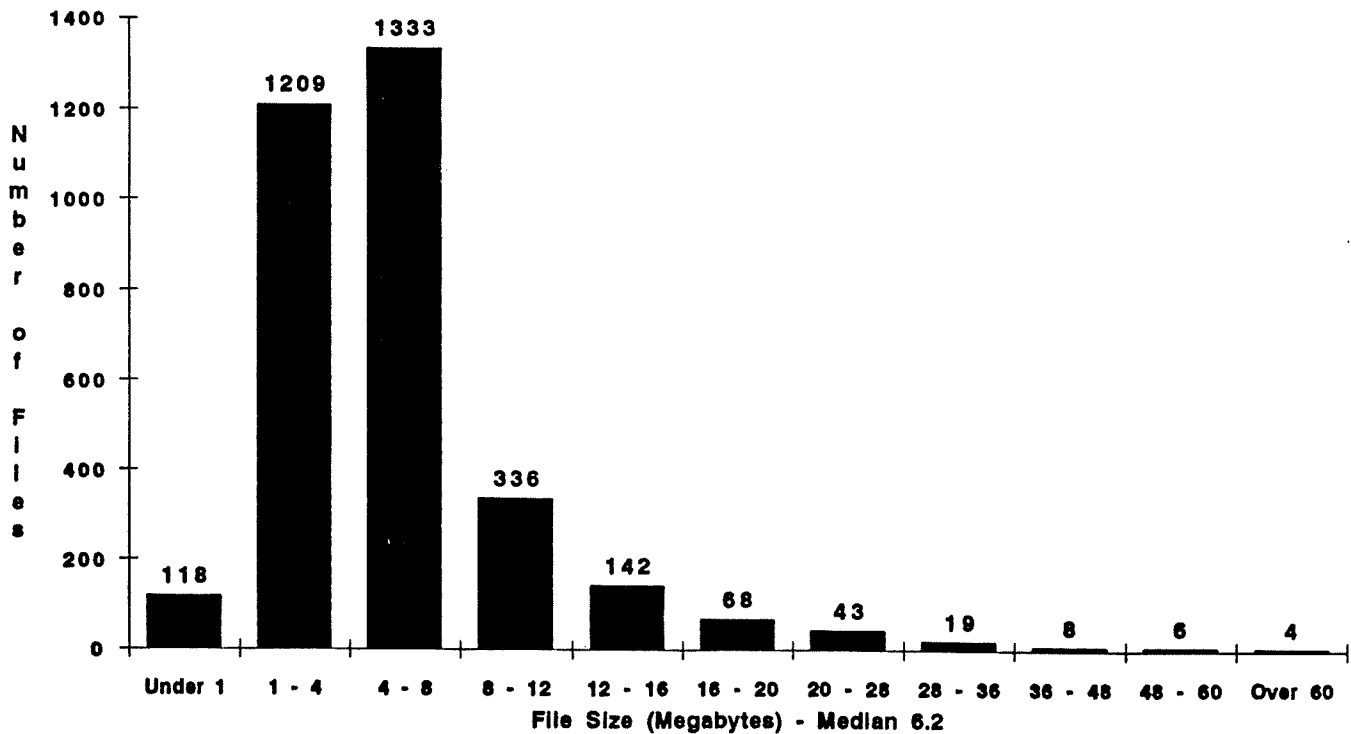
Distribution of Precensus TIGER/Line Files by File Size

TCD	CTYCD	ST	County	Size	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6
20	001	KS	Allen	4.24	9102	5408	9102	203	275	0
20	003	KS	Anderson	4.35	8478	7033	8478	154	161	0
20	005	KS	Atchison	3.35	7031	4476	7031	337	264	0
20	007	KS	Barber	6.95	12711	12611	12711	140	224	0
20	009	KS	Barton	7.62	16484	9644	16484	247	315	0
20	011	KS	Bourbon	3.22	7094	3780	7094	239	252	0
20	013	KS	Brown	3.68	7624	5173	7624	185	215	0
20	015	KS	Butler	8.36	16974	12215	16974	448	727	0
20	017	KS	Chase	4.80	8215	9589	8215	158	134	0
20	019	KS	Chautauqua	4.02	7729	6668	7729	72	199	0
20	021	KS	Cherokee	4.41	9998	4727	9998	462	264	0
20	023	KS	Cheyenne	2.87	5620	4593	5620	38	82	0
20	025	KS	Clark	4.27	7235	8698	7235	118	117	0
20	027	KS	Clay	3.87	7515	6274	7515	111	185	0
20	029	KS	Cloud	4.82	9456	7681	9456	144	256	0
20	031	KS	Coffey	4.27	8572	6458	8572	119	209	0
20	033	KS	Comanche	3.45	5963	6835	5963	60	109	0
20	035	KS	Cowley	9.01	17928	13876	17928	331	493	0
20	037	KS	Crawford	4.36	10214	4094	10214	503	344	0
20	039	KS	Decatur	4.14	8002	6849	8002	16	110	0
20	041	KS	Dickinson	6.64	13754	9363	13754	254	325	0
20	043	KS	Doniphan	2.78	5542	4230	5542	119	199	0
20	045	KS	Douglas	4.22	9823	4098	9823	119	674	6
20	047	KS	Edwards	1.90	4010	2531	4010	74	105	0
20	049	KS	Elk	3.54	6868	5757	6868	35	165	0
20	051	KS	Ellis	7.19	15142	9798	15142	179	257	0
20	053	KS	Ellsworth	5.44	10831	8409	10831	111	160	0
20	055	KS	Finney	4.75	10665	5311	10665	153	403	0
20	057	KS	Ford	5.55	11045	8554	11045	164	389	0
20	059	KS	Franklin	4.47	9366	6099	9366	245	209	0
20	061	KS	Geary	3.82	7783	5548	7783	229	286	0
20	063	KS	Gove	4.31	7903	7775	7903	105	75	0
20	065	KS	Graham	4.38	8344	7407	8344	34	112	0
20	067	KS	Grant	1.75	4226	1483	4226	96	87	0
20	069	KS	Gray	2.41	4949	3473	4949	69	131	0
20	071	KS	Greeley	1.44	3238	1651	3238	21	50	0
20	073	KS	Greenwood	7.91	14952	13556	14952	96	313	0
20	075	KS	Hamilton	2.61	5300	3893	5300	67	81	0
20	077	KS	Harper	4.36	8895	6324	8895	213	248	0
20	079	KS	Harvey	4.31	9571	4977	9571	182	401	0
20	081	KS	Haskell	1.69	4051	1491	4051	50	81	0
20	083	KS	Hodgeman	3.93	6925	7573	6925	14	56	0
20	085	KS	Jackson	3.74	7673	5403	7673	99	176	0
20	087	KS	Jefferson	3.79	7824	5363	7824	165	195	0
20	089	KS	Jewell	5.48	10323	9441	10323	98	184	0
20	091	KS	Johnson	10.40	25987	7045	25987	330	1922	142
20	093	KS	Kearny	2.39	5154	3065	5154	0	62	0
20	095	KS	Kingman	5.54	11001	8643	11001	114	179	0
20	097	KS	Kiowa	3.22	5999	5680	5999	26	75	0
20	099	KS	Labette	5.46	11929	6681	11929	204	306	0
20	101	KS	Lane	2.29	4283	3983	4283	33	68	0
20	103	KS	Leavenworth	4.36	9531	5214	9531	414	396	0
20	105	KS	Lincoln	4.41	8376	7505	8376	74	141	0
20	107	KS	Linn	4.27	8885	5922	8885	247	136	0
20	109	KS	Logan	3.32	6095	5999	6095	52	95	0
20	111	KS	Lyon	6.60	13346	9795	13346	288	421	0
20	113	KS	McPherson	7.15	15058	9653	15058	254	361	0
20	115	KS	Marion	6.37	12909	9493	12909	145	220	0
20	117	KS	Marshall	4.03	8757	4991	8757	195	223	0
20	119	KS	Meade	4.07	7731	6921	7731	77	101	0
20	121	KS	Miami	4.79	10126	6435	10126	133	166	0
20	123	KS	Mitchell	4.23	8199	6904	8199	141	199	0
20	125	KS	Montgomery	6.34	14260	7000	14260	333	627	0
20	127	KS	Morris	3.77	7469	5879	7469	160	192	0
20	129	KS	Morton	2.12	4976	2060	4976	78	92	0
20	131	KS	Nemaha	3.33	7053	4439	7053	87	172	0
20	133	KS	Neosho	4.59	9880	5916	9880	161	54	0
20	135	KS	Ness	5.69	10134	10773	10134	55	120	0
20	137	KS	Norton	4.39	8649	6948	8649	171	143	0
20	139	KS	Osage	5.23	11173	6787	11173	281	284	0
20	141	KS	Osborne	5.30	9937	9202	9937	127	142	0

..CD	CTYCD	ST	County	Size	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6
20	143	KS	Ottawa	4.00	7699	6914	7699	63	134	0
20	145	KS	Pawnee	3.92	7839	6031	7839	56	98	0
20	147	KS	Phillips	6.30	12572	9730	12572	65	152	0
20	149	KS	Pottawatomie	5.67	10922	9263	10922	212	568	0
20	151	KS	Pratt	3.49	7233	4916	7233	81	196	0
20	153	KS	Rawlins	3.75	7234	6228	7234	30	77	0
20	155	KS	Reno	8.00	17719	9177	17719	464	1014	0
20	157	KS	Republic	4.78	9538	7364	9538	56	246	0
20	159	KS	Rice	5.06	10710	6771	10710	151	230	0
20	161	KS	Riley	6.20	12736	8736	12736	381	831	0
20	163	KS	Rooks	5.54	10878	8849	10878	73	132	0
20	165	KS	Rush	4.71	9008	7905	9008	64	99	0
20	167	KS	Russell	7.40	14603	11653	14603	218	261	0
20	169	KS	Saline	6.41	13852	7972	13852	316	665	0
20	171	KS	Scott	1.73	3698	2236	3698	57	96	0
20	173	KS	Sedgwick	14.84	36752	10264	36752	864	3585	90
20	175	KS	Seward	2.40	5396	2653	5396	101	195	0
20	177	KS	Shawnee	7.01	16869	5690	16869	336	1742	21
20	179	KS	Sheridan	3.58	7024	5703	7024	67	74	0
20	181	KS	Sherman	3.50	7299	4862	7299	111	88	0
20	183	KS	Smith	5.15	9802	8727	9802	112	162	0
20	185	KS	Stafford	2.84	6270	3354	6270	51	179	0
20	187	KS	Stanton	1.46	3486	1284	3486	53	60	0
20	189	KS	Stevens	1.71	4306	1147	4306	115	79	0
20	191	KS	Sumner	7.59	15333	11303	15333	304	398	0
20	193	KS	Thomas	3.75	7804	5236	7804	163	168	0
20	195	KS	Trego	4.75	8419	9074	8419	122	78	0
20	197	KS	Wabaunsee	4.56	8639	7737	8639	216	210	0
20	199	KS	Wallace	2.92	5414	5195	5414	15	66	0
20	201	KS	Washington	4.94	9789	7731	9789	115	212	0
20	203	KS	Wichita	1.53	3369	1854	3369	40	47	0
20	205	KS	Wilson	4.31	9155	5679	9155	157	222	0
20	207	KS	Woodson	3.19	6317	5003	6317	49	139	0
20	209	KS	Wyandotte	4.91	13138	1743	13138	239	1313	105

The TIGER File and Transportation Issues

Robert A. LaMacchia

Abstract

In 1981 the U.S. Bureau of the Census set a goal to automate the full range of cartographic and geographic processes in time to serve the data collection, tabulation, and dissemination needs of the 1990 decennial census of the United States. The Geography Division designed and built, with the assistance of the U.S. Geological Survey, the Topologically Integrated Geographic Encoding and Referencing (TIGER) data base to meet this goal. The Census Bureau will make available several nationwide graphic products from this data base. These products include digital cartographic data base extract files as well as the more traditional map products. These extract files will make available to those involved in redistricting at the state or local level a consistent set of digital nationwide networks and linkages to census data.

Introduction

The U. S. Bureau of the Census set a major agency goal in 1981: automate the full range of cartographic and geographic support processes in time to serve the data collection, tabulation, and dissemination needs of the 1990 decennial census of the United States. In six short years, the Bureau of the Census devised a totally new approach to the production of the geographic products: maps, address range reference files, and geographic relationship files. The result is a computer data base containing just about every street and road in the United States, the names of most roads, the address ranges and 1980 census geographic area codes from the GBF/DIME-Files (address range reference files prepared for use in the 1980 decennial census), railroads, hydrographic features, and the boundaries, names, and numerical codes for all the geographic areas used by the Census Bureau to tabulate the results of the 1990 census. The Census Bureau already has made available the first extract product from this nationwide data base. The implication for transportation planners is overwhelming; a consistent nationwide framework is now available for use in the transportation planning process.

What is TIGER?

In order to achieve the goal of automating the full range of cartographic and geographic processes in time to serve the data collection, tabulation, and dissemination needs of the 1990 census, the Census Bureau designed a digital data base we call "TIGER." The TIGER File is a digital cartographic data base; in other words, it is a

map of the United States that shows all of the information normally found on a Census Bureau map in a form the computer can manipulate. We developed a new file structure based upon the mathematics of a map for this data base. Our data base is topologically integrated -- hence the name "Topologically Integrated Geographic Encoding and Referencing File, or TIGER File. The TIGER File is based on the science of topology.

Why Do We Need A TIGER?

We need the TIGER File to produce the geographic products that support 1990 census operations, namely to collect, tabulate, and report the 1990 census data. We use the TIGER File to assign residential and business addresses to the correct geographic location codes for data collection, both through computer matching to the information in the file (automated assignment) and by using paper maps produced from the file (manual assignment). The TIGER File also provides the geographic structure, the relationship of one geographic area to other geographic areas, that permits us to assign an address to the correct census block, block group, census tract, place, county, and so forth. We also can produce maps from the TIGER File, maps that our enumerators use to collect the data and that data users require so that they can know the geographic areas for which we report the data.

We are indebted to the U.S. Geological Survey for the existence of the TIGER File. For about 98% of the country, mainly the rural and newly developing areas, we used digital files from the Geological Survey. For the established urban areas, TIGER had its origin in the 1980 GBF/DIME-Files.

From the Geological Survey, we received about 20,000 computer files: their 1:100,000-scale DLG-3 files. These files had their origin in the familiar 1:24,000-scale topographic maps that they photographically reduced, mosaicked, scribed, and then scanned to convert to computer-readable format. The Census Bureau processed these files, along with the 345 GBF/DIME-Files, into a single topological file. While all of this work was going on, our 12 regional offices updated paper map sheets with new street features and feature names. We called these updated paper map sheets "Feature Change Maps," or FCMs for short. Using these FCMs and the 1980 census map sheets, we added new street features, street and hydrographic feature names, and the geographic area codes to the digital files we received from the USGS.

Metropolitan Area Windows

We built the TIGER File primarily from two sources: the USGS DLG-3 files and the Census Bureau's GBF/DIME-Files. We used the

GBF/DIME-Files because they were digital files that contained address ranges for most block sides and the geographic area codes we used in the 1980 decennial census. The Census Bureau used four private contractors to extend the geographic coverage of the 1980 GBF/DIME-Files to the nearest 1:24,000-scale USGS quadrangle boundary based upon updated 1980 Metropolitan Map Series (MMS) sheets; we did this to more easily merge the GBF/DIME-File information into TIGER. We call this extended area the "Metropolitan Area Window" (Figure 1). The Census Bureau's regional office geographic staff added new features and feature names to the MMS sheets from aerial photography or comparable sources. The contractors used this information to update the feature network, feature names, and geographic area codes in the GBF/DIME-Files. When the contractors added a new feature segment, they also provided the "shape" of the feature as a string of coordinates. Thus, the cartographic quality of the features in the TIGER File will vary depending upon the original source of the information.

Using the TIGER File, the Census Bureau assigned over 50 million residential addresses to census tract and block numbers and, by March of 1991, will produce over 7 million copies of its map sheets. This will represent over 1.2 million unique map sheets, all produced without any manual intervention. A portion of a computer-drawn map (County Block Map) is shown in Figure 2. We produce maps using "batch" computer programs that make all of these determinations based upon the parameters of map type and the geographic area we want mapped. We submit a computer "run" and out comes a computer tape containing the instructions for our electrostatic plotters.

Maps Available From TIGER

Subsequent to the 1990 census, with nationwide block numbering, we estimate that we will require 90,000 map sheets to show all the block boundaries. The Census Bureau will not print any of these map sheets; data users will be able to order them as paper copies produced on our electrostatic plotters. These map sheets will be similar in content to the 1980 census-block numbered map sheets that showed block numbers with the notable exception that they will not show the urbanized area boundaries. We also plan to produce Census Tract/Block Numbering Area Outline Maps, Voting District Outline Maps, County Subdivision Maps, and Urbanized Area Outline Maps that will provide an overview type of map for our data users.

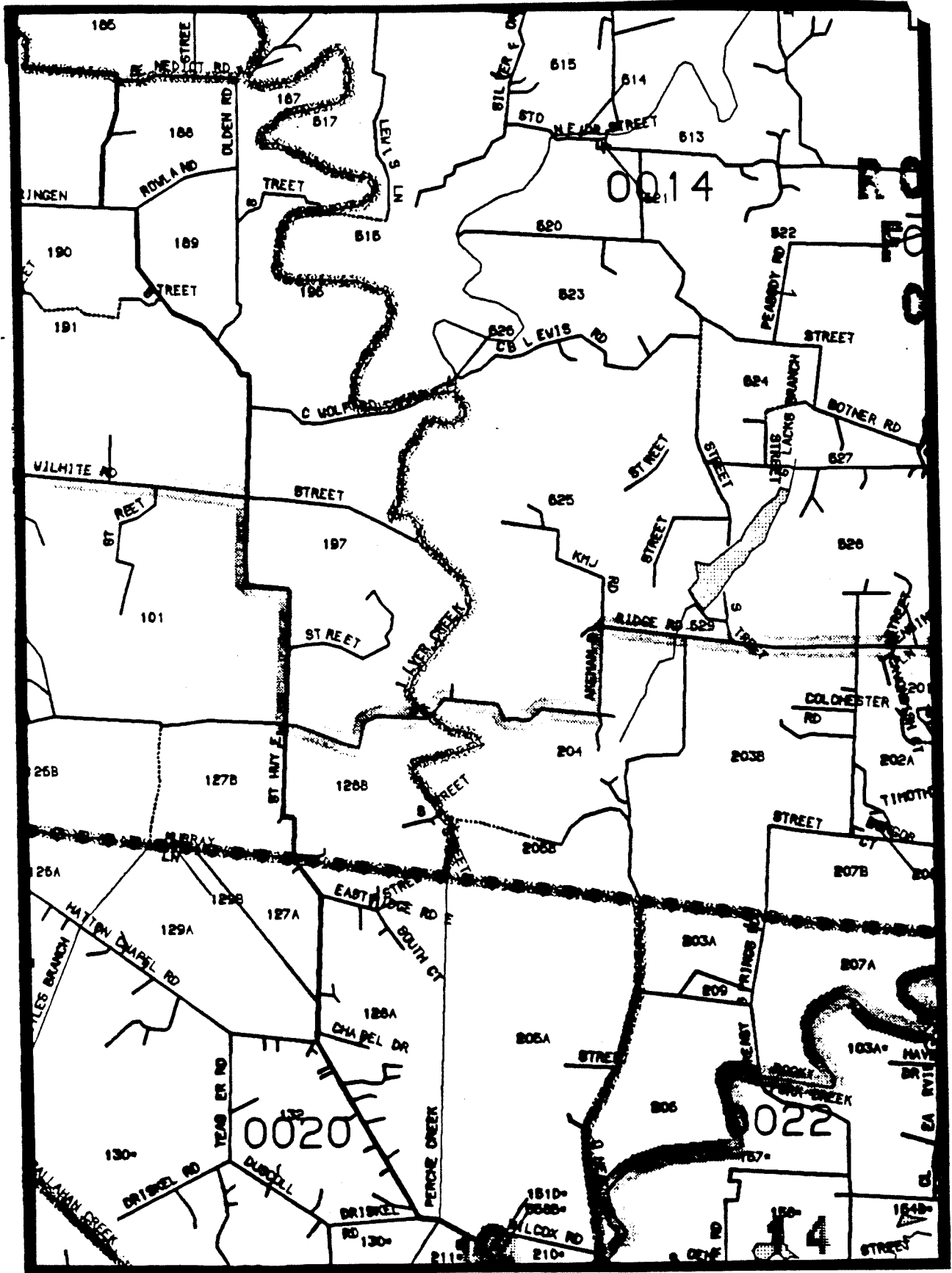# Metropolitan Area Window
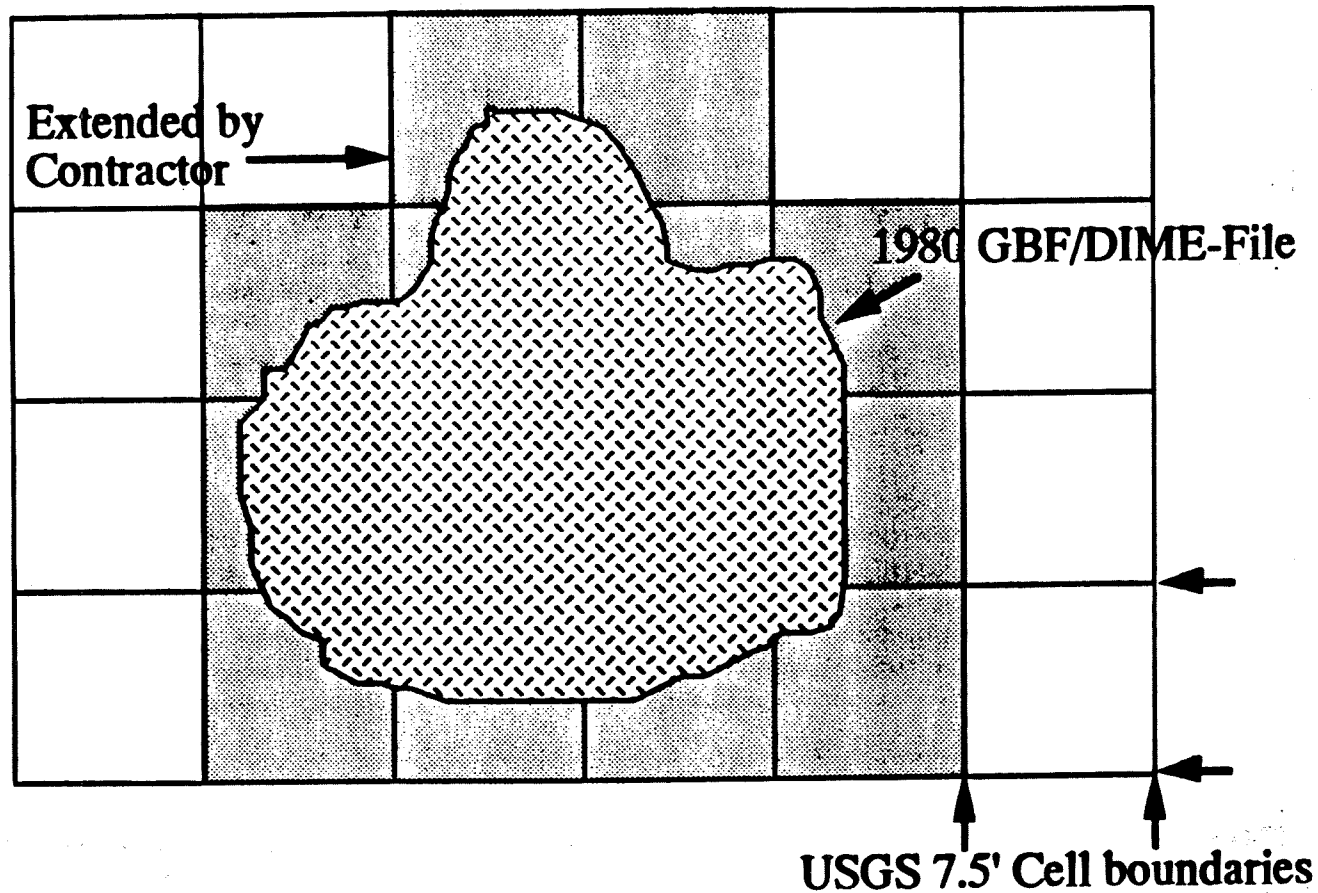
Figure 1. Metropolitan Area Window

Figure 2. County Block Map

What Can Transportation Planners Do With a TIGER?

Transportation planners were the first to use address range reference files for the automated assignment of origin and destination addresses to traffic zones. We are indebted to the work of the Chicago Area Transportation Study (CATS) and the Pittsburgh Area Transportation Study (PATS), among others, for the early work in this field. The CATS and PATS reference files had no cartographic capability; they only were useful for "geocoding." Transportation studies such as PATS and CATS also constructed separate networks that they used for their trip allocation models, the familiar "gravity" model. With the TIGER File, the transportation planner has a network with more detail than ever anticipated; the transportation planner only needs to add a "hierarchy" code to each segment, or link, in the network so that the planner can limit the links used in the analysis. The planner also has the ability to have the computer draw a map of the chosen network and show the transportation variables assigned to the network. Of course, the planner will need to add such transportation related information as average speed, number of lanes, directional restrictions, and so forth before using the network.

In other areas of transportation planning, the TIGER Files can be the basis for a transportation information system. The transportation planner can add pavement management information, traffic sign information, accident reports, and so forth. Any data reported by a geographic location can be stored for reporting and analysis. The major restriction on the use of the files is that they are not engineering files. We do not recommend digging a hole in a street based upon the coordinates in the file, but we would recommend dispatching a crew to fix a pothole based upon a resident's reported location of the pothole; the pothole repair crew does not require an exact latitude - longitude to find the pothole and repair it.

Transportation Related 1990 Census Questions

Before discussing the geographic products related to the 1990 census, we have made some important changes to the 1990 census that will affect the census data important to the transportation planner.

We have improved the vehicle availability question so that it is one question for all vehicle types, with a larger number of categories (the top category is now 7+ vehicles). We have subdivided the bus or streetcar category in the means of transportation to work into two categories: bus or trolley bus, streetcar or trolley car, and we have added a category for ferryboat. In the carpooling questions, we have dropped the question on carpooling arrangements and have modified the responses for vehicle occupancy to include a "drive alone" category. We have added a question on departure time for work.

We have made many changes in the standard printed products we will produce from the 1990 census. In the area of computer tape files, there will be minimal changes. Of importance to transportation planners is the 1990 Census Transportation Planning Package (CTPP). The CTPP replaces the 1980 Urban Transportation Planning Package.

We envision that the overall 1990 CTPP will be similar to the 1980 package; the U.S. Department of Transportation again is supporting the development of the computer software for the package. We will ask metropolitan planning organizations (MPOs) to pay the cost of processing the data for a CTPP for their area. The MPOs again will have a choice of using Census Tracts or Traffic Analysis Zones as the geographic unit for the tabulations of the data in the CTPP. An ad hoc committee of transportation planners has just begun to formulate a proposal for the specific content of the 1990 CTPP. The Census Bureau will elicit comments on this proposal early next year.

Where Can I Get My TIGER?

The first public products from the TIGER data base are available now. We plan on preparing five computer-readable products from our TIGER File. We call these products "TIGER extracts" because they do not contain everything in the TIGER File; we consider some data items in the TIGER File confidential, and we will not release that data.

TIGER/Line Files

The TIGER/Line file is the first TIGER File extract available. We are making this product available in four versions: Prototype (available), Precensus (available), with Initial Voting District Codes (available August - October 1990) and 1990 census (available by March 1991). (See Figure 3.) This product is very similar to the GBF/DIME-Files that we produced for the major urban areas following the 1980 census. It is a "flat" file that contains six record types that are sufficient to construct a topological data base. It also can be an address reference file for automated geocoding, but only for the same geographic areas that the 345 GBF/DIME-Files covered, as we have yet to add the address range information for any additional geographic area. You can obtain TIGER/Line files for every county in the United States from our Data User Services Division. We price these files on the basis of the number of counties that you purchase at one time within a single state; the price varies with the version of the TIGER/Line file. The Precensus TIGER/Line file is $200 for the first county in a state and $25 for each additional county in the state ordered at the same time.

Figure 3. Planned Versions of the TIGER/Line Files

Version	Dates Available	Vintage of Governmental Unit Boundaries	Enumerator/ Local Official Updates	Voting District Codes
Prototype	Feb-Apr 1989	1980	No	No
Precensus	Oct 1989- Feb 1990	1980 and 1988	No	No
Initial Voting District Codes	Aug-Oct 1990	1980 and 1990 (Initial)	Yes (Prelist/Precanvass/ Local Official)	Yes (Initial)
1990 Census	Jan-Mar 1991	1980 and 1990 (Final)	Yes (All Types)	Yes (Final)

There are some major differences between the Prototype and Precensus versions. Both versions contain the 1990 census tracts and block numbering areas, and the 3-digit collection block numbers. The Prototype version contains only unverified 1980 political boundaries. The Precensus version contains both those 1980 political boundaries and the 1988 political boundaries collected during our 1988 Boundary and Annexation Survey, has additional address range information inserted following our effort to code the 50 million addresses in the major urban areas. We also have changed the record format in the Precensus version to accommodate a permanent record number and some additional data items.

The Initial Voting District Codes version of the TIGER/Line file will contain the initial voting district codes (where supplied by the states), corrections from our enumerators in that portion of the country where we conduct the census by mail, and the initial 1990 tabulation political boundaries and tabulation block numbers. This version of the file will be extremely helpful to states that will use a geographic information system (GIS) to assist them in the redistricting process as it will provide the initial voting district codes and tabulation block codes in sufficient time for the state to build their data files.

The 1990 census version of the TIGER/Line file will contain the final 1990 census tabulation geographic area codes: the political boundaries as of January 1, 1990 (the reference date for the political boundaries used to tabulate the 1990 decennial census) and the 1990 census tabulation block numbers (3-digit collection block number plus one character alphabetic suffix). This version also will contain the final voting district codes.

Both the Precensus and the 1990 census versions of the TIGER/Line files will be available on CD-ROM disks. The Precensus TIGER/Line files sell for $250 per disk, regardless of the number of counties on the disk. We expect that the entire nation will fill about 40 disks. This CD-ROM product makes the TIGER/Line files easily accessible to microcomputer users.

TIGER/Boundary

We also plan to release in 1991 the TIGER/Boundary files which are files similar in content and purpose as the 1980 County Boundary File. We plan to produce TIGER/Boundary files for both county boundaries and census tract/BNA boundaries nationwide. We propose to release these files in two versions, one with a "full" set of coordinates for the boundaries suitable for use on mainframe and minicomputers, and a second version with "thinned" coordinates suitable for use on microcomputers. We anticipate that the "thinned" version will be extremely useful in conjunction with microcomputer software that can import digital boundary files. We are looking at the possibility of distributing the "thinned" version of the TIGER/Boundary files on CD-ROM.

TIGER/Comparability

In 1991, the Census Bureau will release a computer file that provides a comparison between the 1980 and 1990 census tracts. We anticipate that this file will be comparable to the similar file we produced after the 1980 census that showed the comparability between the 1970 and 1980 census tracts. There is no comparability between the 1980 and 1990 block numbering areas, or between the 1980 enumeration districts and any 1990 geographic area.

TIGER/GICS

After the 1980 census, the Census Bureau produced a report, the *1980 Geographic Identification Code Scheme*. This report provided the name and some related status codes for each geographic area for which the Census Bureau tabulated data in the 1980 census. We also made the information available as a computer file. We plan to produce a similar report and computer file after the 1990 census. In response to data user requests, we also are producing a precensus file that contains some of the information in the TIGER/GICS file. We are calling this file the GRF-N (Geographic Reference File-Names) and this file will provide names for the geographic codes contained in the Precensus TIGER/Line files. Having a precensus GRF-N file available will enable users of the Precensus TIGER/Line files to associate a name to a geographic area code without resorting to printed publications from the 1980 census or from the National Institute of

Standards and Technology, the publisher of FIPS PUB 55 which provides the name for each FIPS code.

The Census Bureau also has a microcomputer based Bulletin Board System (BBS) that is available to you to keep up to date on the availability of TIGER extract products or to ask questions or learn more about the TIGER extract products. This BBS is operated by our State Data Center program; you only need to complete a brief questionnaire and then "jump" to the TIGER Conference. The telephone number is (301) 763-1568. The state data centers will have copies of the TIGER products and are knowledgeable about all the data files that we will produce from the 1990 census. We encourage you to discuss your data needs with your state data center; you may be surprised how easy it is to obtain and use data from all of our census activities.

TIGER Maintenance

After completion of the 1990 decennial census, the Census Bureau plans to improve the coordinates in the MAW area of the TIGER data base by moving in the coordinates from the USGS DLG-3 files. In addition, the Census Bureau plans to extend the geographic cover with address ranges for that portion of the country with house numbers--street addressing systems.

The Census Bureau also is committed to updating the TIGER data base for use with future census operations. To achieve this objective without duplicating similar efforts at the state and local levels, we are proposing cooperative arrangements with state departments of transportation or other state-level coordinating body. Working with the state agency the Census Bureau proposes to develop procedures to maintain the transportation and hydrography information now in the TIGER data base:

Roads	coordinate values (latitude/longitude), feature classification codes, feature names, address ranges, ZIP Codes
Water	coordinate values (latitude/longitude), feature classification codes, feature names
Railroads	coordinate values (latitude/longitude), feature classification codes, feature names

We are open to discussion on the details of these attributes. Under a cooperative arrangement the Census Bureau can provide the TIGER/Line files, copies of existing Census Bureau maps or similar geographic products. These cooperative agreements would provide mutually benefical data to the state DOT and to the Census Bureau.

For further information regarding cooperative agreements with the Census Bureau's Geography Division, contact Charles Dingman or Susan Lender at (301) 763-4664.

PLANNED TIGER SYSTEM PRODUCTS

by

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INTRODUCTION

Part of the Census Bureau's 1990 census data tabulation and dissemination program involves the preparation and distribution of maps (computer-readable and traditional printed formats) and related geographic products and definitions. Based on suggestions and comments gathered at 65 local public meetings, 10 regional census product planning meetings, the 1990 Products Proposals Conference (November 1987), state data center meetings, and numerous other discussions with many people, the Geography Division has prepared a description of the specific cartographic and geographic products that it plans to produce as part of the 1990 census data products program. This paper provides an overview of these products. The Geography Division will release details on individual products on a flow basis as plans are firmed.

The Geography Division designed this document to provide the new user of Census Bureau data with a very brief introduction to 1990 census geography and the related geographic processes. The data user familiar with Census Bureau products may find this a good review of the basics.

The proposed cartographic and geographic products are data sets extracted from information collected for the processing of the 1990 census. The Census Bureau does not intend to include information not used to support the 1990 census program in these data sets. Numerous private sector organizations provide "value added" products and services that allow data users to combine locally available data sets with Census Bureau information. The release of the 1990 census geographic products should assist diverse user groups in augmenting or beginning automated mapping, geocoding, and statistical uses of the Census Bureau's data products.

It is important for everyone using Census Bureau data in any form to be aware of the geographic concepts involved in taking a census and in presenting the resulting statistics. The geographic areas for which the Census Bureau tabulates data range from entire states down to small villages and even individual city blocks. Brief descriptions of the geographic areas used in the Census Bureau's data presentations are documented in Appendix A; specific types of geographic areas and the number of entities within each category are documented in Appendix B. This massive amount of geographic data is computerized so that the Census Bureau can produce geocoding files, reference maps, maps for field operations, and maps to accompany the data products, as well as the geographic framework used to present the data in nearly all statistical summaries and reports. This overview concerns itself only with geographic products.

GEOGRAPHIC SUPPORT SYSTEM FOR THE 1990 CENSUS

The U.S. Bureau of the Census has a long history of innovation in data collection and processing techniques since the first decennial census in 1790. Among the Census Bureau's notable achievements are the first census presentation using maps (the 1870 Statistical Atlas of the United States), the use of mechanical tallying machines (the 1872 Seaton Device), the introduction of electronic machine tabulation (the 1890 Hollerith Machine), the introduction of scientific sampling techniques in census-taking (1940), the first major civilian use of a digital computer (UNIVAC-1, 1951), the development of a film optical sensing device for input to computer (FOSDIC, 1953), the first release of decennial census results to the public on computer tape (the Summary Tape Files, 1965), the development of the address coding guides and the GBF/DIME System for assigning questionnaire addresses to geographic locations (1968), and the application of computer graphics technology to support the Census Bureau's map presentations (the Urban Atlas series, 1975), and the "mastering" of a CD-ROM optical disk containing data from the 1980 Census of Population and Housing and the 1982 Census of Agriculture (1985).

Work on the 1990 census has prompted the development of another major new innovation that extends this impressive history: the Topologically Integrated Geographic Encoding and Referencing (TIGER) System. The TIGER System automates the mapping and related geographic activities of the 1990 decennial census and provides a foundation for continued automation of the Census Bureau's geographic operations for all censuses and sample surveys. It also provides data analysts with products containing information they can use with geographic information systems (GIS), computer mapping programs, and other geographically-oriented technologies. Using these automated tools, data analysts will be able to develop new techniques for a variety of functions as well as to better use the Census Bureau's data products related to small geographic areas.

The historic development of the TIGER System is a classic example demonstrating the systematic evolution of an idea resulting from an organization identifying a problem, researching possible solutions, recommending an approach, conducting a feasibility assessment, and implementing a solution. To understand why the Census Bureau developed this type of an automated mapping and geographic information system, an understanding of geographic support at the Census Bureau is necessary.

Prior to the 1960 census, the Census Bureau's data collection methodology relied on enumerators visiting every household and business establishment in the United States. Using Census Bureau maps, census enumerators manually coded every living quarters to its appropriate census geography. By 1960, this had become a very time

consuming and expensive process. The 1960 census employed a new collection technique. Instead of having an enumerator deliver every 1960 census questionnaire, the Census Bureau experimented with having the U.S. Post Office deliver the forms to households in selected areas. The census enumerators then collected the completed form from each household and completed long-form questionnaires as appropriate. The 1960 geocoding process remained unchanged; census enumerators still assigned each living quarters to its geographic location based on personal observation.

The success of the U.S. Post Office delivery of the 1960 census questionnaires experiment led to the adoption of the "mail out/mail back," or mail census, technique for many more households in the 1970 and subsequent censuses. This required major changes in the Census Bureau's approach for preparing geographic products that supported the census since enumerators no longer visited every household. The new self-enumeration approach resulted in the development of address coding guides (ACGs) in the late 1960s, which provided computer-based information that allowed the Census Bureau to link addresses to streets and other features shown on existing and updated Census Bureau maps and thereby to preassign mailing addresses to the correct geographic locations. The Census Bureau used these ACGs and an enhanced file structure, called the Geographic Base File/Dual Independent Map Encoding Files (GBF/DIME-File), to process the work place responses from the 1970 census. In simple terms, the GBF/DIME-File technique enhanced the ACG files by encoding more features and providing powerful new file editing capabilities. The primary function of the GBF/DIME-File still was to enable automated geographic coding of addresses to Census Bureau geographic units (geocoding), just as it was with the ACGs. These techniques were enhanced and improved through use in the 1972 and 1977 economic censuses, the 1980 decennial census, and the 1982 economic censuses.

All the geographic products from past censuses, including the maps, the ACGs, the GBF/DIME-Files, and the geographic reference files, have several items in common: they all are different ways of describing the Earth's surface. Each product was prepared separately, requiring the complex clerical operations of hundreds of people. These numerous products eventually caused problems for the Census Bureau. Errors from each product accumulated, introducing inconsistencies when these products were used together. For example, the simple transformation of digits in a geographic code (such as coding 1987 instead of 1978) or omission of a block number resulted in mismatches between products in all subsequent geographic products and processes.

The TIGER System uses a variety of new approaches to deal with the geographic problems of the past. The Census Bureau built the TIGER

data base, the geographic "heart" of the TIGER System, in time to meet the needs of the 1990 decennial census. Simplistically, the TIGER data base consolidated the separately prepared maps and other geographic products of the past into one nationwide data base, capable of providing the products and services necessary for the 1990 decennial census, and subsequently to support the economic censuses and surveys as well as other Census Bureau programs.

To avoid duplicating geographic automation work done by others, the Census Bureau sponsored and participated in a series of contracts and committees to develop a functional requirements statement. As a result of these investigations and other discussions, the Census Bureau entered into a major cooperative project with the U.S. Geological Survey (USGS). This project refined the automated processes developed to convert USGS 1:100,000-scale maps into computer-readable files that would meet the mission responsibilities of both agencies. A description of this entire process and the specific techniques and design criteria for the TIGER data base can be obtained by writing to Robert W. Marx, Chief, Geography Division, Bureau of the Census, Washington, DC 20233.

The TIGER data base and the underlying digital 1:100,000-scale map data are becoming a major contributing element in both government and private uses of automated mapping and geocoding activities. The TIGER System is rich in possibilities for the geographic products the Census Bureau will produce for the 1990 census data products program. It is easy to let one's imagination conjure up new and exciting products from the TIGER data base--full-color maps detailing data distributions, microcomputer-based GIS, and all the maps for the entire country on a CD-ROM disk, direct access to Census Bureau data tabulations through a "map" displayed on a graphic computer terminal, and so forth. While the possibilities are many, the Census Bureau had to make its final choices with a realistic assessment of what 1990 census geographic products can be produced on schedule, in an economical manner, and within realistic budgetary expectations. The planned geographic products described here balance these often competing goals and, at the same time, provide an appropriate range of geographic products that will ensure maximum utility of the TIGER data base to produce products that will benefit the majority of the data users of Census Bureau geographic and data products.

In addition to the products presented here, the Census Bureau may produce additional geographic products as part of special tabulation programs, such as the User Defined Area Program and the Census Transportation Planning Package.

GEOGRAPHIC PRODUCTS

The Census Bureau defines "geographic" products as those products that are primarily geographic in nature. For example, the 1980 census maps, Geographic Identification Code Scheme (GICS), Master Area Reference Files (MARF), and GBF/DIME-Files are considered geographic products. The 1980 Summary Tape Files (STF) and printed reports are not "geographic" products in this context, despite the fact that they are organized by geographic areas.

The design and release of the geographic products for 1990 have been tailored to fit the data products tabulation and publication program, which is similar in geographic coverage and content to the 1980 census, except that the data products will be produced on an accelerated schedule, and in many cases, issued in a different sequence and in additional formats.

The catalog of geographic products planned for the 1990 census includes an exciting list of items, some old, some new, some merely repackaged. The TIGER/Line files replace the GBF/DIME-Files. The MARF information is now embedded in the STFs. More thematic maps are planned and several geographic publications are proposed.

The ability to produce a wide variety of geographic products is made possible by virtue of the TIGER data base. In previous censuses obtaining the necessary map base information was a labor-intensive, time-consuming process. With the TIGER data base, the limiting factors are the computer programming resources need to extract and manipulate the data and the costs of publication.

The Census Bureau characterizes the geographic products in three broad categories: 1) Maps (showing information on the geographic structure represented by the tabulated data or providing displays of data in appropriate geographic distributions); 2) publications (providing primarily geographic information); and, 3) computer files (providing primarily geographic information). A description of each of these three broad categories follows.

PLANNED TIGER SYSTEM DATA PRODUCT MAPS

The mapping services that support Bureau of the Census operations can be grouped into three major categories: internal maps, data product maps, and special request maps. Internal maps are produced for use in various activities such as field data collection, precensus and postcensus local review, voting district and statistical areas delineation, TIGER data base updating, and so forth. Data product maps are designed for use with the data the Census Bureau tabulates. They are produced to appear in or accompany printed data reports, data microfiche, and summary tape files. Normally, data product maps

are reproduced in large quantities using printing plates produced from negatives; occasionally, they are prepared as wall maps. Special request maps are produced on a cost-reimbursable basis in support of other Federal agency programs, commercial requests, and so forth. This section of the paper will address only the maps that will accompany the data products.

Essentially, the data product maps planned for the 1990 census can be divided into two generic categories based on the purpose of the maps: summary reference outline maps, and statistical (thematic) maps. Summary reference outline maps display the geographic entities and their names/codes for which the Census Bureau will tabulate 1990 census data, while thematic maps present the spatial distribution and relative magnitude of selected 1990 census data and related information using patterns or colors.

The data product maps will be produced in two forms: 1) as electrostatically plotted map sheets sold separately from the 1990 census data products--be those products a printed report, a frame of microfiche, a summary tape file (STF), or a CD-ROM--and 2) as film negatives used to make printing plates for pages to be included in the 1990 census printed reports.

The electrostatically plotted maps will be the first data product maps produced from the 1990 census. They will be prepared to accompany the special population summaries provided by the Census Bureau in accordance with the requirements of Public Law 94-171 (P.L. 94-171). The Congress has mandated through this legislation that the Census Bureau provide to the states, before April 1, 1991, population counts for purposes of redistricting various representational areas. All planned P.L. 94-171 map products will be summary reference outline maps. They will be monochromatic (black and white), electrostatically plotted, stand-alone paper map products, generally produced using batch computer processes with little or no interactive editing.

As currently planned, the maps to be included in the published 1990 census reports, on the other hand, will be printed in the traditional sense. With few exceptions, they will be of high image quality, monochromatic, and interactively edited by skilled cartographers. Some of the thematic maps will be stand-alone, multicolor, printed products. These also will be interactively edited. Although the data product maps are being planned for distribution as hard-copy products, the Census Bureau also is investigating the feasibility of releasing selected publication map images on CD-ROM.

All 1990 census data product maps will be produced in one of three standard sizes: page-size, two-page size, and "full" size. Page-size is

approximately 8 1/2 x 11 inches, two-page size is approximately 11 x 17 inches, and full size ranges from two-page size to approximately 36 x 42 inches.

The geographic coverage of the individual map sheets comprising the various data product map types will vary. Coverage refers to the areal extent of the geographic entity being mapped. The entire United States will be the mapping entity for most thematic maps and some of the summary reference outline map types. Alaska and Hawaii generally will be shown as insets when the United States is the mapping unit.

Data product map scale will depend on the parameters of map size, map coverage, and map content. The thematic maps almost always will be small-scale maps. They normally will include only a limited number of tabulation area boundaries and names for reference. Most traditional cartographic base features, with the exception of very large bodies of water, typically will not be shown. Similarly, most of the small-scale summary reference outline maps will display only a few levels of 1990 census geography. On these maps, when cartographic base features are shown, they generally will be limited to those coincident with the displayed geographic entity boundaries to assure proper data user orientation. Large-and medium-scale summary reference outline maps will be used to portray a wide variety of 1990 census geographic entities; some will include detailed cartographic base features.

A complete listing and brief description of the planned data product maps under each of the two generic categories follows. These also are summarized for quick reference in Appendix C. The timing for producing each series will follow the schedule for dissemination of the 1990 census data as outlined in the Census Bureau brochure "*1990 Census of Population and Housing Tabulation and Publication Program,*" (July 1989). Essentially, the sequence of release will be P.L. 94-171 products first, followed by the basic population and housing report series, then the special reports.

Summary Reference (Outline) Maps

These map series focus on a specific level of geographic information represented by the statistics in each published report. Each map series will vary in content and scale based on the final 1990 census data products program; most will be small-scale. Some series will show only area names with symbolized boundaries, and some also will show the symbolized boundaries along with the names of the linear features that the boundaries follow. The map series currently planned are listed below.

1990 Census Block-Numbered Maps: The block-numbered maps are the backbone of the decennial census. These large-scale maps will show the greatest detail and most complete set of geographic information. Thus, they will depict the smallest geographic areas for which the Census Bureau tabulates data--the tabulation blocks--along with their identifying numbers. The maps also will show many other tabulation area boundaries in detail, including ground features that are used first for 1990 census enumerator reference and later as tabulation area boundaries. While the TIGER System permits the production of maps in a variety of formats and at a variety of scales, cost considerations and priorities among the range of geographic products to be made available to the public at Census Bureau expense will limit the production of this map series to the most frequently requested format. The Census Bureau is calling this format the "1990 Census County Block Map." Anyone desiring a map showing this detail in a different format or at a different scale either can purchase the necessary computer files to generate their own customized maps, or can contract with the Census Bureau to produce the desired maps on a cost-reimbursable basis.

The intent of the 1990 Census County Block Map series is to produce for each county and statistically equivalent area a county-wide map on the smallest possible number of map sheets at the maximum practical scale. The 1980 census Metropolitan Map Series sheet format will <u>not</u> be retained. The 1990 map series will depict each county on one or more map sheets--depending on the areal size and shape of the county, the number of blocks in the county, and the density of the block pattern--that will allow displaying all block numbers and feature identifiers legibly. Each county will consist of one or more parent sheets at one of 7 standard scales, plus larger-scale insets as required. This means that the map for a particular county could be at a scale different from its neighboring counties. Insets often will be single sheets at a larger scale. In densely developed areas, where the area requiring an inset will not fit on one sheet, multiple-sheet insets will be used. An index showing map sheet and inset coverage will be included. The maps will be produced in a standard sheet size of 36 inches x 42 inches with a maximum 32 inch x 32 inch map display area. The 1990 Census County Block Map will <u>not</u> be issued in printed form; it will be available only in an electrostatic plotter version.

For states that participated in Phase 2 of the Voting District Program, there will be a version of these maps for affected counties that depict the voting district boundaries and numbers as supplied by the state. This version of the maps will be produced on the time schedule for the release of the P.L. 94-171 data. They will be called the "P.L. 94-171 County Block Maps" to distinguish them from the 1990 Census County Block Maps that will be produced to accompany the summary tape files and subsequent microfiche block data.

American Indian/Alaska Native Areas (AI/ANA) Outline Map: These maps will show the boundaries and names of American Indian reservations (including associated off-reservation trust lands), tribal jurisdiction statistical areas in Oklahoma, tribal designated statistical areas, Alaska Native village statistical areas, and Alaska Native Regional Corporations. They also will show the boundaries and names of states, counties, county subdivisions and places. The intent is to produce one or more page-size maps for each entity to fit the printed reports.

American Indian/Alaska Native Areas of the U.S.: This will be a two-page-size map of the United States showing the boundaries of AI/ANAs, states, and counties for the United States. Only the name of each AI/ANA is shown. Names of states and counties will not appear.

Census Tract/Block Numbering Area Outline Maps: These maps will show census tract/block numbering area boundaries and numbers, the features underlying these boundaries, and the names of the underlying features, as appropriate. They also will show the boundaries and names of counties, county subdivisions, and places. These maps will be available in both printed and electrostatic plots to accompany the summary tape files and printed census tract/block numbering area data reports. The scale of the maps will be optimized to keep the number of map sheets for each area to a minimum, but will vary by area. For dense areas, where the census tract/block numbering area numbers cannot be shown, insets at a larger scale will be created. Insets will be placed on the parent sheet where feasible.

Congressional District Outline Map--103rd Congress: One map will be prepared for each state showing the relationship of the reapportioned congressional districts of the 103rd Congress--the first to be redistricted as a result of the 1990 census--to county boundaries. It also will show the locations and names of the larger places in each state. For those counties that are split by congressional district boundaries, plans are to prepare more detailed page-size maps showing the congressional district boundary relationship to county subdivision and place boundaries, plus the census tract/block numbering area/block group boundaries (where the states used those entities in defining their districts) as well as selected underlying map features and their names, such as roads, railroads and streams.

County Subdivision Outline Maps: These maps will show the names and boundaries of all counties (and statistically equivalent areas) and county subdivisions (MCDs, CCDs, subMCDs, and so on) in each state and statistically equivalent area, as well as all places for which the Census Bureau tabulates data in the 1990 census. They also will depict AI/ANAs: American Indian reservations (and associated off-reservation trust lands), Alaska Native Regional Corporations, tribal jurisdiction statistical areas of Oklahoma, tribal designated statistical areas, and Alaska Native village statistical areas. Within the bound publications,

these maps will be partitioned into multiple, page-size sheets; the scale will vary from state to state. An index to multiple sheets will be provided for each state. Plans are to also prepare an electrostatic plotted composite map of each whole state and state equivalent at a much larger but uniform scale, usually on one or two map sheets. The sheet size will be approximately 36" x 42" and the scale probably will be 1:500,000. All boundaries will be as of January 1, 1990. Because of the early time schedule for the release of the P.L. 94-171 data, the electrostatic plotter version will be produced first.

Metropolitan Areas of the U.S.: This will be a two-page-size map showing the boundaries of Metropolitan Statistical Areas (MSAs), Consolidated Metropolitan Statistical Areas (CMSAs), Primary Metropolitan Statistical Areas (PMSAs), states, and counties for the United States and Puerto Rico. Only the name of each MSA, CMSA, and PMSA are shown; names of states and counties will not appear.

Public Use Microdata Sample (PUMS) Areas: This will be approximately seventeen slightly overlapping sections covering the United States showing state, county, and PUMS "area" boundaries and names. An index map to the sheets will be provided.

Regions and Divisions of the U.S.: This will be a page-size map of the United States showing state, region, and division boundaries and names.

State/County Outline Map: This will be a page-size, state-based map series showing state and county boundaries and names. Also shown are state capitals and selected places.

State Metropolitan Area Outline Maps: This map series will display county boundaries and names along with the extent of MSAs, CMSAs, and PMSAs and their names within each state. It also will show the location and name of the state capital and the locations and names of the larger places in each state. The plan is to prepare one page-size map per state to fit the printed 1990 census reports. For those metropolitan areas that extend into adjacent states, the map will portray the full extent of the area on all affected state maps.

Urbanized Area Outline Maps: Plans are to prepare two types of maps that will show the extent of each 1990 urbanized area (UA). For the printed reports, the plan is to prepare small-scale maps that will show the extent and component entities (states, counties, county subdivisions, places and AI/ANAs) of each 1990 urbanized area. Often several small urbanized areas will be grouped on a page; a few large urbanized areas will require entire pages or multiple pages.

The Census Bureau also plans to prepare a separate map for each 1990 urbanized area that will show the urbanized area boundaries, the

features underlying these boundaries, and the names of the underlying features, as appropriate. These maps also will show the boundaries and names of states, counties, county subdivisions, places, AI/ANAs and UAs. These maps will be available only in electrostatic plotter versions. The scale of the maps will be optimized to keep the number of map sheets for each area to a minimum, but the scale will vary by urbanized area.

Urbanized Areas of the U.S.: This will be a two-page size-map of the United States showing the boundaries of UAs, states, and counties for the United States and Puerto Rico. Only the name of each UA is shown. Names of states and counties will not appear.

U. S. County Outline Map: This small-scale map of the United States will show the boundaries and names for all counties and statistically equivalent areas as of January 1, 1990, including those in Puerto Rico, the Virgin Islands of the United States, and the Pacific outlying areas. The sheet size will be approximately 3' x 4' and the scale for most areas probably will be 1:5,000,000.

Voting District Outline Map: These maps will show voting district numbers, voting district boundaries, the features underlying these boundaries, and the names of the underlying features as appropriate. They also will show the boundaries and names of counties, county subdivisions, and places. The mapping unit will be a county with a variable scale. The maps will not be printed but made available only in an electrostatic plotter version and then only for those counties for which the state provided voting districts under Phase 2 of the Voting District Program.

Statistical (Thematic) Maps

The second major publication-map category is statistical or thematic maps--that is, maps generally depicting the distribution of, or changes in, specific demographic and nondemographic qualities of American life across geographic areas. These maps, provide material for studying spatial variations and the relative magnitude of given sets of census data, and will be published both as single-sheet wall maps, primarily in the GE-50 and GE-70 series, and at half-page, or two-page size to be bound in the various printed U.S. summary reports. Typically, the maps will be multicolor and will cover specific themes. The GE-50 and GE-70 series are intended for either wall display or desk use.

Printed Thematic Maps (page-size): Approximately 24 maps are planned under assorted titles. The two standard titles include "Major Acquisitions and Dates of Admission of States" and "Centers of United States Population: 1790-1990." Additional choropleth maps are planned for each of the following report topics: population and

housing counts, general population characteristics, general housing characteristics, social and economic characteristics, and detailed housing characteristics.

Printed Thematic Maps (wall-size): These are full-size (30" x 42" or 20" x 30") color maps of the United States at a scale of 1:5,000,000 (GE-50 Series) or 1:7,500,000 (GE-70 Series). Approximately twenty maps are planned. Standard titles include: Metropolitan Areas of the United States, Districts of the 103rd Congress, 1990 Population Distribution Map (daytime view, 1990 Population Distribution Map (nighttime view), and 1990 Population Distribution Map (with physical relief). Additional choropleth titles depicting selected 1990 census data by county will be issued. The subject content of which will be determined by the subject matter division.

TIGER SYSTEM GEOGRAPHIC PUBLICATIONS

In addition to producing the maps and computer files, the TIGER data base affords the opportunity to prepare a variety of reports that present, cartographically or in tabular format, information on the geographic distribution of the population, land and water area, and other subjects of a geographic nature. The reports either planned or currently under consideration are listed below. Several are reports that have been issued in each of the last several censuses while others have not been issued for several decades because of the high cost involved in compiling the base information--information that is now easily derivable from the TIGER data base. The intent is to issue the reports on a flow basis. The limiting factor will be availability of funds.

Area Measurement of the United States: This will be a report presenting measurements of surface area for states, counties, minor civil divisions, and places for which 1990 census of population statistics are published. Separate measurement totals will be shown for inland water, and total areas, in square miles. In addition, 1990 population totals and population per square mile of land area will be included.

Boundary and Annexation Survey 1980-1989: This report will present boundary change information (such as number and size of annexations and detachments) for incorporated municipalities of 2,500 or more population by state. Also, presented are tables listing new municipal incorporations, disincorporations, mergers, and other selected actions regardless of population size; and tables ranking municipalities by both land area and increase in land area during the period covered.

Centers of Population for States and Counties 1950-1990: This report will present both a graphic and tabular description of the population of the United States and each state from 1950 to 1990 based on counts of population obtained in the corresponding decennial censuses. Also

included will be a table giving the 1990 population centers for each county. The report will include a map showing the population center of each state and for the United States for each of the reference years.

Congressional District Atlas - 103rd Congress of the United States: This atlas will contain maps of all 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, and the Virgin Islands of the United States. The maps will depict the boundaries and numbers of the congressional districts of the 103rd Congress of the United States--the first Congress based on the reapportionment predicated on the 1990 census. The atlas also will include listings that identify the congressional districts related to each incorporated municipality, governmentally functioning county subdivision, and county for states with more than one district, and a listing that shows the counties located entirely or partly in each congressional district.

The atlas will include a state map for each state that shows the outline and name of each county or county equivalent, the state capital, and generally all places of 25,000 or more inhabitants based on the results of the 1990 census. Larger-scale maps and/or inset maps will be included where necessary to show geographic details when a congressional district boundary divides a county.

Geographic Identification Code Scheme 1990 Census: This publication will document the geographic code structure used for the 1990 census. It will include various tables that present the names of political and statistical subdivisions and their related 1990 census geographic and descriptive codes. The codes correspond to those on the summary tapes and other files, and will include the five-digit FIPS (Federal Information Processing Standards) codes for all places and related entities. Also included will be a brief census definition of the geographic areas included in the census and a description of the coding scheme used for each of them in census data products. One of the tables will provide 1980-1990 code equivalences for all counties, MCDs, and places which had intercensal identifying code revisions.

Population and Housing Atlas: This proposed volume will contain a variety of maps depicting socio-economic data from the 1990 Decennial Census of Population and Housing. The majority of the maps will be choropleth and dot distribution maps of the U.S. by county. The remainder of the maps will either be of other types, such as proportional circle maps, flow maps, and so forth, or will cover smaller geographic areas such as metropolitan areas, urbanized areas, and so forth.

Population Within 50 and 100 Miles of Selected Points: This report will present estimates of the 1990 population of the United States residing within 50 miles of approximately 1,000 points. Each point

will represent a city with 25,000 or more inhabitants, or cities classified as "central cities" of metropolitan areas. Separate points will be designated for each of the five boroughs that comprise New York City. The information provided will include the latitude and longitude of the selected point, the 1990 population of the city, and the total U.S. population within 50 and 100 miles of the selected point. Also included will be a U.S. map showing the points.

TIGER Documentation: This is a multi-volume set of technical documentation for the Census Bureau's TIGER (Topologically Integrated Geographic Encoding and Referencing) System. All aspects of the TIGER System are discussed: genesis of the system, file structures, modules, list structures, and data elements. The county topological partitions, the TIGER dictionary, and the Geographic Catalog are all documented. A full set of descriptive appendixes and a full index are included. Note: This documentation is designed for technical users.

Zones of Equal Population in the United States - 1990: This report (with tables and maps) will compare population and land area of the United States for a specified number of north-south zones and a specified number of east-west zones. The tables provide statistics on the approximate land area, percent of total U.S. land area, total population, and percent of U.S. population for each of the specified zones. The maps will provide a visual analysis of the unevenness of the distribution of the U.S. population.

TIGER SYSTEM DATA BASE EXTRACTS

The Geography Division plans to produce several computer files from the TIGER data base. These files will provide the data user with basic geographic information in digital form. The Census Bureau calls these digital products the "TIGER System Data Base Extracts" because they each provide an extract of selected information from the TIGER data base.

These digital products replace and expand upon similar products the Census Bureau produced ten years ago for the 1980 census. The TIGER/Line files replace the 1980 GBF/DIME-Files; the TIGER/Boundary files replace the 1980 county boundary files; the TIGER/GICS replaces the 1980 GICS file, and the TIGER/Comparability file replaces the 1980-1970 Census Tract Comparability file.

For the first time, the data users have access to digital data for all features displayed on the 1990 census map sheets, as well as the associated census geographic area codes for each side of the feature. This information will be available in two formats: the TIGER/Line files and the TIGER/DataBase. A number of commercial software vendors

are able to use the TIGER/Line files as direct input to their geographic information system (GIS); Appendix D provides a list of vendors who have informed the Census Bureau that they support this format. Using either of these TIGER extract products as the basis for a GIS will allow the data user to spatially display and analyze the 1990 census data distributed on the STF data files.

The Census Bureau also has a microcomputer based Bulletin Board System (BBS) that is available to keep data users up to date on the availability of TIGER extract products or to ask questions or learn more about the TIGER extract products. This BBS is operated by the State Data Center program; data users need only to complete a brief questionnaire and then "jump" to the TIGER Conference. The telephone number is (301) 763-1568. The state data centers will have copies of the TIGER products and are knowledgeable about all the data files that the Census Bureau will produce from the 1990 census. Data users are encouraged to discuss their data needs with their state data center; data users may be surprised how easy it is to obtain and use data from all of the Census Bureau's activities.

TIGER/Line Files: The TIGER/Line file is the first TIGER data base extract available. This product is very similar to the GBF/DIME-Files that the Census Bureau produced for the major urban areas following the 1980 census. The Census Bureau is making this product available in four versions: Prototype (now available), Precensus (now available), Initial Voting District Codes (to be made available August - October 1990) and 1990 census (to be made available by March 1991).

Planned Versions of the TIGER/Line Files

Version	Dates Available	Vintage of Governmental Unit Boundaries	Feature/Feature Name/ Address Range Updates	Voting District Codes
Prototype	Feb-Apr 1989	1980	All Counties (Initial TIGER File Building Operation)	No
Precensus	Oct 89-Feb 90	1980 and 1988	528 Counties (Major Urban Areas Vendor Address List Matching/Resolution)	No
Initial Voting District Codes	Aug-Oct 1990	1980 and 1990 (Initial)	2,512 Counties (Prelist/Precanvass/ Initial Local Official)	Yes (Initial)
1990 Census	Jan-Mar 1991	1980 and 1990 (Final)	All Counties (List Enumerate/ Final Local Official)	Yes (Final)

The TIGER/Line file is a "flat" file that contains six record types that are sufficient to construct a topological data base. It also can be an address reference file for automated geocoding, but only for the same geographic areas that the 345 GBF/DIME-Files covered. (The Census Bureau has not yet added the address range information for any additional geographic area). Data users can obtain TIGER/Line files from the Census Bureau Data User Services Division for every county in the United States, the District of Columbia, Puerto Rico, the Virgin Islands of the United States, and the Pacific Outlying Areas of American Samoa, Guam, Northern Marianas, and Palau. The Census Bureau has priced these files on the basis of the number of counties that are purchased at one time within a single state; the price varies with the version of the TIGER/Line file. The Precensus TIGER/Line file is $200 for the first county in a state and $25 for each additional county in the same state ordered at the same time.

There are some major differences between the prototype and precensus versions of the TIGER/Line files. The prototype version contains only unverified 1980 political boundaries. The precensus version contains both the 1980 political boundaries and the 1988 political boundaries as reported in the Census Bureau's 1988 Boundary and Annexation Survey. It also has additional address range information captured as part of the Census Bureau's 1990 census effort to code the 60 million addresses in the major urban areas. The Census Bureau also has changed the record format in the precensus version to accommodate a permanent record number and some additional data items.

The Initial Voting District Codes version of the TIGER/Line file will contain the initial voting district codes (where supplied by the states that participated in Phase 2 of the Voting District Program), many census enumerators corrections in that portion of the country where the Census Bureau is conducting the census by mail, and the initial 1990 tabulation political boundaries and tabulation block numbers based on the 1990 Boundary and Annexation Survey. This version of the file will be extremely helpful to states that use a geographic information system (GIS) to assist them in the redistricting process as it will provide the initial voting district codes and tabulation block codes in sufficient time for the state to build their data files.

The 1990 census version of the TIGER/Line file will contain the final 1990 census tabulation geographic area codes: the political boundaries as of January 1, 1990 (the reference date for the political boundaries used to tabulate the 1990 decennial census) and the 1990 census tabulation block numbers (3-digit collection block number plus one character alphabetic suffix). This version also will contain the final voting district codes and the 1990 Census Designated Place codes.

Both the precensus and the 1990 census versions of the TIGER/Line files will be available on CD-ROM disks. The Precensus TIGER/Line files sell for $250 per disk, regardless of the number of counties on the disk. The Census Bureau expects that the entire Nation will fill about 40 disks. This CD-ROM product makes the TIGER/Line files easily accessible to microcomputer users.

TIGER/DataBase: During 1991, the Census Bureau also plans to release a TIGER/DataBase extract from the TIGER data base. The TIGER/DataBase extract will be in the Federal Spatial Data Transfer Standard format that is expected to be a FIPS standard in 1990. This format provides the data user with the points, lines, and areas and the necessary linkages so that the data user does not have to rebuild the topological structure. This is a much more complicated data structure to use than the TIGER/Line file, but it does provide the data user with point and area information not available in the TIGER/Line files. It will not include any of the data fields that violate U.S. Title 13 disclosure rules.

TIGER/Boundary: The Census Bureau also plans to release in 1991 the TIGER/Boundary files which are files similar in content and purpose as the 1980 County Boundary File. The Census Bureau plans to produce TIGER/Boundary files for both county boundaries and census tract/BNA boundaries nationwide. The Census Bureau proposes to release each of these two files in two versions, one with a "full" set of coordinates for the boundaries suitable for use on mainframe and minicomputers, and a second version with "thinned" coordinates suitable for use on microcomputers. The Census Bureau anticipates that the "thinned" version will be extremely useful in conjunction with microcomputer software that can import digital boundary files. The Census Bureau is looking at the possibility of distributing the "thinned" version of the TIGER/Boundary files on CD-ROM.

TIGER/Comparability: In 1991, the Census Bureau will release a computer file that provides a comparison between the 1980 and 1990 census tracts. It is anticipated this file will be comparable to a similar file produced after the 1980 census that showed comparability between the 1970 and 1980 census tracts. There is no comparability between the 1980 and 1990 block numbering areas, or between the 1980 enumeration districts and any 1990 geographic area.

TIGER/GICS: A file that provides the name, United States codes, and geographic area code for every geographic area for which the Census Bureau will provide data.

TIGER/GRF-N: The GRF-N (Geographic Reference File-Names), provides the names for the census geographic area codes contained in the Precensus TIGER/Line files. Having a precensus GRF-N file

available enables users of the Precensus TIGER/Line files to associate a name to a geographic area code without resorting to printed publications from the 1980 census or from the National Institute of Standards and Technology, the publisher of FIPS PUB 55 which provides the name for each FIPS code.

Map Sheet Corner Point Coordinate File: This file contains information about the Precensus Local Review map sheets that the Census Bureau sent to every functioning governmental unit. It contains the basic information about the scale and coverage of the map sheets. This file is available from the Data User Services Division for $275. If there is sufficient interest, the Census Bureau will produce additional versions of this file for the map sheets that are produced for the Postcensus Local Review Program and for the map sheets that will accompany the Public Law 94-171 data file.

APPENDIX A

GEOGRAPHIC AREAS DEFINITIONS

POLITICAL AREAS

United States : The 50 states and the District of Columbia.

states: The 50 states; in addition, for purposes at data presentation, the Census Bureau treats the District of Columbia, Puerto Rico, the Virgin Islands of the United States, and each of the Pacific Outlying Areas (American Samoa, Guam, Northern Marianas, and Palau) as the statistical equivalent of a state.

counties, parishes, statistical equivalent areas: The primary subdivisions of each state, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the Pacific Outlying Areas: counties for 48 states; parishes for Louisiana; boroughs and census areas for Alaska; independent cities in Maryland, Missouri, Nevada, and Virginia; municipios in Puerto Rico; and several other entities in the Virgin Islands and Pacific Outlying Areas.

minor civil divisions (MCDs): The primary political subdivisions, or administrative subdivisions of a county for a statistical equivalent entity, in 28 states, Puerto Rico, and several Pacific Outlying Areas. MCDs include townships, towns (in New England, New York, and Wisconsin), Barrios (in Puerto Rico), and various other legally defined county subdivisions including functioning governmental units and nonfunctioning administrative entities. Also see "unorganized territories."

sub-minor civil divisions (sub-MCDs): Legally defined subdivisions of a minor civil division. For the 1990 census, the Census Bureau recognizes only the subbarrios in Puerto Rico as sub-MCDs.

incorporated places: Governmental entities, incorporated under state law as cities, towns (excluding the New England States, New York, and Wisconsin), boroughs (excluding Alaska and New York), and villages, having legally prescribed limits, powers, and functions.

American Indian reservations (AIRs): American Indian areas with boundaries established by treaty, statute, and/or executive or court order, and recognized by the Federal Government or a state government. The reservations and their boundaries are identified for the Census Bureau by the Bureau of Indian Affairs (BIA) and state governments.

American Indian trust lands: Lands held in trust by the Federal Government for either a tribe (tribal trust lands) or an individual member of that tribe (individual trust lands). The Census Bureau recognizes and tabulates data only for off-reservation trust lands delineated on maps for the Census Bureau by the Bureau of Indian Affairs (BIA).

Alaska Native Regional Corporations (ANRCs): One of 13 corporate entities established by the Alaska Native Claims Settlement Act (P.L. 92-203) to carry out business and nonprofit activities by and for Native Alaskans under the act. Twelve ANRCs have specific boundaries and cover the State of Alaska except for the Annette Islands Reserve; the thirteenth covers Alaska Natives not resident in Alaska who do not identify with any of the other 12 corporations.

Alaska Native villages (ANVs): See "Alaska Native village statistical areas."

Congressional Districts (CDs): The 435 areas established for the purpose of electing persons to the U.S. House of Representatives.

voting districts (election precincts) (VTDs): In 1990 census usage, any area defined by a state or local government for purposes of elections and delineation on maps for the Census Bureau by the states.

STATISTICAL AREAS

regions/divisions: Groupings of states established by the Census Bureau for the presentation of census data for large areas of the United States. The four census regions are subdivided into nine divisions.

metropolitan areas (MAs): Highly populated, economically integrated areas, consisting of one or more counties (MCDs in New England) established by the Office of Management and Budget (OMB). There are several types of metropolitan areas each having its own specific definition.

urbanized areas (UAs): Densely settled areas consisting of at least 50,000 inhabitants, generally having one or more central places and including adjacent areas which generally have a population density of at least 1,000 people per square mile.

Alaska Native village statistical areas (ANVSAs): Statistical areas that represent the settled portions of Alaska Native villages (tribes, bands, clans, villages, communities, or associations in Alaska established without legal boundaries pursuant to the Alaska Native Claims Settlement Act). ANVSAs are delineated for the 1990 census by officials of the appropriate Alaska Native Regional Corporation and other knowledgeable officials.

tribal designated statistical areas (TDSAs): Areas identified and delineated by Federal or state recognized American Indian tribal governments, without a land base (reservation), to encompass the American Indian population area over which the tribal governments have jurisdiction.

tribal jurisdiction statistical areas (TJSAs): Areas identified and delineated by Oklahoma tribal officials to encompass the American population over which one or more tribal governments have jurisdiction.

census county divisions (CCDs): Subdivisions of counties, established cooperatively by the Census Bureau and state and local officials, as the statistical equivalent of MCDs for the presentation of data in 21 states that do not have well defined MCDs; that is, no MCDs have been established by law, or the MCDs that exist do not serve a legal or administrative governmental purpose, are not well known, have poorly defined boundaries, and/or have frequent boundary changes.

unorganized territories (UTs): In MCD states, the portions of counties that are not included in any MCDs or incorporated places.

census designated places (CDPs): Densely settled population centers that are not incorporated, but which resemble incorporated places in that local people can identify the settlement with a name. CDPs are identified and delineated by local officials based on Census Bureau criteria.

census tracts: Small, locally delineated statistical subdivisions of metropolitan and other selected counties, generally having stable boundaries and, when first established, designed to have relatively homogeneous demographic characteristics and to contain between 2,500 and 8,000 inhabitants.

block numbering areas (BNAs): Areas delineated for the purpose of grouping and numbering census blocks in counties where census tracts have not been established.

block groups (BGs): Combinations of census blocks that share the same first digit in their identifying number within a census tract or BNA.

census blocks: Small geographic areas normally bounded by streets and other visible features and occasionally by legal boundaries and other nonvisible boundaries in rural areas; census blocks may be as small as an individual city block, a combination of several city blocks or may cover several square miles. Blocks do not cross census tract, BNA, or county boundaries. Blocks are the smallest areas for which the Census Bureau provides data.

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APPENDIX B

CENSUS GEOGRAPHIC AREAS

	1980 Number	1990 Number
POLITICAL AREAS		
United States	1	1
States and statistically equivalent areas	57	57
States	50	50
District of Columbia	1	1
Outlying areas	6	6
Counties and statistically equivalent areas	3,231	3,248
Minor civil divisions	30,450	30,410 E
Sub-minor civil divisions	265	145
Incorporated places	19,176	19,425 E
Consolidated cities	---	6
American Indian reservations	278	310 E
American Indian entities with trust lands	37	50 E
Alaska Native villages	209	----
Alaska Native Regional Corporations	12	12
Congressional districts	435	435
Voting districts (election precincts)	36,361	90,000 E

1-45

APPENDIX B

CENSUS GEOGRAPHIC AREAS (continued)

STATISTICAL AREAS	1980 Number	1990 Number
Regions	4	4
Divisions	9	9
Metropolitan areas	---	---
MSA	---	267 *
CMSA	---	21 *
PMSA	---	73 *
SMSA	323	---
SCSA	17	---
Urbanized Areas	373	425 E
Alaska Native village statistical areas	---	217
Tribal designated statistical areas	---	25
Tribal jurisdiction statistical areas	---	17
County subdivisions	5,827	5,906
Census county divisions	5,512	5,582
Unorganized territories	274	284
Other statistically equivalent areas	41	40
Census designated places	3,733	4,500 E
Census tracts	43,691	50,000 E
Block numbering areas	3,423	11,400 E
Enumeration districts	102,235	---
Block groups	156,163	234,000 E
Tabulated portions	197,957	357,500 E
Blocks	2,473,679	6,900,000 E
Tabulated portions	2,545,416	---

---=Not applicable
E=Estimate
*As established by OMB on June 30, 1989

APPENDIX C

1990 CENSUS PLANNED DATA PRODUCT MAPS

PART A - ELECTROSTATIC PLOTTED MAPS

Map Product	Est. Map Sheets	First Issue Date	Report
1. P.L. 94-171 Maps			
P.L. 94-171 County Block Maps	90,000	1Q-91	PL94-171
County Subdivision Outline Maps (composite version)	100	1Q-91	PL94-171
VTD Outline Maps	4,000	1Q-91	PL94-171
2. STF Reference Maps			
1990 Census County Block Maps	90,000	2Q-91	STF-1B
Census Tract/Block Numbering Area Outline Maps	4,200	1Q-91	PL94-171
Urbanized Area Outline Maps (with boundary features)	400	3Q-92	STF-2C

PART B - PRINTED MAPS

Map Product	Est. Map Sheets	First Issue Date	Report
1. Reference Maps Included in Published Reports			
State/County Outline Maps	57	3Q-91	CPH-1
State/Metropolitan Area Outline Maps	57	4Q-91	CPH-2
County Subdivision Outline Maps	300	3Q91	CPH-1
Census Tract/Block Numbering Area Outline Maps	4,200	3Q-92	CPH-3
Urbanized Area Outline Maps (without boundary features)	400	4Q-91	CPH-2
American Indian/Alaska Native Areas Outline Maps (individual)	500	3Q-92	CP-1-1A
Regions and Divisions of the U.S.	1	2Q-92	CPH-1*
Metropolitan Areas of the U.S. (2-page)	1	2Q-92	CPH-2*

*U.S. Summary Report

PAR... - PRINTED MAPS (Continued)

Map Product	Est. Map Sheets	First Issue Date	Report
Urbanized Areas of the U.S. (2-page)	1	2Q-92	CPH-2*
American Indian/Alaska Native Areas of the U.S. (2-page)	1	3Q-92	CP-1*
Congressional District Maps (Individual States)	550	1Q-93	CPH-4
Public Use Microdata Sample (PUMS) Maps	18	1Q-93	PUMS
2. Thematic Maps Included in Published Reports			
Major Acquisitions & Dates of Admission of States	1	2Q-92	CPH-2*
Centers of U.S. Population: 1790-1990	1	2Q-92	CPH-2*
Population & Housing Counts (2 titles)	2	2Q-92	CPH-2*
General Population Characteristics (4 titles)	4	3Q-92	CP-1*
General Housing Characteristics (4 titles)	4	3Q-92	CH-1*
Social & Economic Characteristics (6 titles)	6	2Q-93	CP-2*
Detailed Housing Characteristics (6 titles)	6	2Q-93	CH-2*
Population & Housing Atlas Maps	580	2Q-93	Atlas
3. Thematic Maps - Individual Sheet			
U.S./County Outline (base map)	1	1Q-91	NA
Day Time Population Distribution	1	4Q-92	NA
Day Time Population Distribution with Physical Relief	1	4Q-92	NA
Night Time Population Distribution	1	2Q-91	NA
Metropolitan Areas of the U.S. (1992, 1993, 1994, 1995)	4	2Q-92	NA
Congressional Districts of the U.S. (103rd, 104th, 105th)	3	4Q-92	NA
Various Choropleth Maps (9 titles)	9	3Q-92	NA

*U.S. Summary Report

APPENDIX D

Geographic Information System Vendors That Have Apprised the Census Bureau of Their Capability to Process TIGER/Line Files

As of March 15, 1990*

Vendor	**Package Name**
John H. Yeager Address Information Mapping Services 8403 Rockwood Lane Austin, TX 78758 (512) 454-AIMS	
Howard Simkowitz Director, Government Services Caliper Corporation 4819 Cumberland Avenue Chevy Chase, MD 20815 (301) 654-4704	TransCAD GISPlus
Bernie Peterson Contemporary Technology Corporation 3701 West Alabama, Suite 460 Houston, TX 77027 (713) 621-8166	TIGERTAMER TIGERPLOT
R. Carey Gersten DeLorme Mapping Main Street P. O. Box 298 Freeport, ME 04032 (207) 865-4171	DeLorme XMap

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* This list will be updated periodically as additional vendors inform the Census Bureau about TIGER/Line file processing capabilities.

Vendor	**Package Name**

Bill Gilmore
President
Educational Data Systems, Inc.
901 Campisi Way, Suite 160
Campbell, CA 95008

(408) 559-4424

Kimball W. Brace
President
Election Data Services
1522 K Street NW, Suite 626
Washington, DC 20005

(202) 789-2004

Jack Dangermond   ARC/Info
President
Environmental Science Research Institute
380 New York Street
Redlands, CA 92373

(714) 793-2853

William L. Folchi   ETAK Geocoder
Vice President, Sales
Etak, Incorporated
1430 O'Brien Drive
Menlo Park, CA 94025

(415) 328-3825

Tom Bramble
GENASYS, Inc.
2629 Redwing Road, #330
Fort Collins, CO 80526

(303) 226-3283

Vendor	**Package Name**

Nora Sherwood Bryan
GeoBased Systems
12526 High Bluff Drive, Suite 160
San Diego, CA 92130

(619) 481-3119

Donald F. Cooke   Safari
President   GeoSpreadSheet
Geographic Data Technology, Inc.   Matchmaker
13 Dartmouth College Highway   GeoDisTrict
Lyme, NH   03768-9713

(603) 795-2183

R. J. Madill, P. Eng.
Business Manager
GeoVision Corporation
1600 Carling Avenue, Suite 350
Ottawa, Ontario K1Z 8R7
CANADA

(613) 722-9518

Kenneth S. Shain
President
GeoVision, Inc.
270 Scientific Drive, Suite One
Norcross, GA   30092

(404) 448-8224

Yves Payette
Project Engineer
Hydro Quebec
201 Garry Street West
Montreal, Quebec H2P 1S7
CANADA

(514)   384-0009

Vendor	Package Name
Brian E. Nolan GIS Development Manager IBM Corporation Neighborhood Road Kingston, New York 12401 (914) 385-5063	Geographic Facilities Information System (GFIS)
Bill Cozzens Intergraph Corporation One Madison Industrial Park Huntsville, AL 35807-4201 (205) 772-2222	MicroStation GIS TIGRIS CADMAP
Laszlo C. Bardos Sales Manager MapInfo Corporation 200 Broadway Troy, NY 12180 (518) 274-8673	MapInfo
Steven W. Kinzy Industry Marketing Manager McDonnell Douglas 7000 West Center Road, Suite 402 Omaha, NE 68106 (402) 391-2700	
Lee Miller MicroImages, Inc. 201 North 8th Street, Suite 15 Lincoln, NE 68508-1347 (402) 477-9554 (402) 477-9559/FAX	Map and Image Processing System (MIPS)

Vendor	Package Name
Theodore J. Miller III Marketing Representative Montage Information Systems, Inc. 1650 Oakbrook Drive, Suite 435 Norcross, GA 30093 (404) 840-0183 (404) 840-9463/FAX	Census Windows: TIGER TOOLS Mapping Applications Resource System (MARS)
Robert Pavla Cameo Project Manager NOAA/OMA34 7600 Sand Point Way NE Seattle, WA 98115 (206) 526-6319	Cameo
John C. Antenucci President PlanGraphics, Inc 202 West Main Street, Suite 200 Frankfort, KY 40601-1806 (502) 223-1501	
Craig N. Butler Director of Research and Development Public Systems Associates, Inc. 303 East 17th Avenue, Suite 440 Denver, CO 80203 (303) 831-1260	
Richard H. Schweitzer, Jr. President Sammamish Data Systems, Inc. P.O. Box 70387 Bellevue, WA 98007 (206) 867-1485	GeoSight

Vendor	Package Name

Stephen Polzner
President
Strategic Mapping, Inc.
4030 Moorpark Avenue, Suite 250
San Jose, CA   95117-1848

(408) 985-7400

Atlas*GIS

Mark Barton
President
Street Map Software
1014 Boston Circle
Schaumburg, IL 60193

(312) 529-4044

StreetSmart

Charles H. Drinnan
Staff Analyst
Synercom Technology, Inc.
2500 City West Boulevard, Suite 1100
Houston, TX 77042

(713) 954-7000

Matthew L. Goldworm
TerraLogics
114 Daniel Webster Highway South
Suite 256
Nashua, NH   03060

(603) 889-1800

TerraView

Warren G. Glimpse
President
U.S. Statistics, Inc.
1101 King Street, Suite 601
Alexandria, VA 22314

(703) 979-9699

IMAGE

Rob Van Westenberg
Marketing Manager
Wild System 9
373 Inverness Drive South, Suite 207
Englewood, CO 80112

(303) 799-9453

Bill Graves
Secretary of State

2nd Floor, State Capitol
Topeka, KS 66612-1594
(913) 296-2236

STATE OF KANSAS

Senate Bill 730, which passed the Senate 40-0, would increase Uniform Commercial Code fees. U.C.C. filing fees have not been raised for 13 years and no longer generate sufficient revenues to cover the costs of administering the program. The fees are paid by the commercial lenders, who use the system.

We receive a fee from each lending institution that files a financing statement or an amendment to a statement already filed. We microfilm and store the original document and enter the information into our database. We propose that the fee increase from $3 for standard forms and $5 for non-standard forms to $6 for all forms. We also propose adding a $1 fee for each additional page of the document to cover the additional microfilm and storage costs.

We also search our files for financing statements that name a particular debtor. The current fee is $5 plus 25 cents for each statement reported after the first 10 statements naming that debtor. We propose raising the fee to $8 re-gardless of the number of statements reported. This would enable the customer to easily pay the search fee in advance.

These increases would place our fees slightly below the national average for U.C.C. filings and searches. Sixteen states increased fees last year. The Kansas Bankers Association, representing the largest group of users of the system, testified that they do not oppose these modest increases because they are interested in maintaining the level of service currently provided. We were the first and are now one of the few states providing 24-hour service and conducting telephone searches for customers with pre-paid accounts.

The reason that increases were not necessary earlier is shown on the attached chart. For several years this office conducted a high volume of searches for the federal farm lending agency (ASCS) that loaned farmers money for grain crops. During several harvest seasons we conducted 1,600 searches daily and some days conducted more than 2,000 searches. The

HA
4-2-90
Attachment 2

.arginal cost of providing these additional services was, in fact, less than the fee collected. Surplus revenues were transferred from our U.C.C. fee fund into the general fund.

However, because the "target prices" of grains are now lower than the market prices, we are conducting only 175 searches per day. This level represents the "normal" commercial activity level for Kansas without temporary federal government activities.

In response to this change we reduced our staff by one third, discontinued using U.C.C. funds to pay for some of the support services within the office and generally tightened our belts. Nevertheless, current fees at these search levels are insufficient to cover the costs of creating and maintaining the information system. Our current fees certainly will not support the growth in services that our customers desire. For example, many states are now making information available on optical disk systems, while we are financially unable to do so. During F.Y. '89 we subsidized the services provided to the lenders with our general and other funds and project that we are doing so in F.Y. '90.

S.B. 730 would also permit this office to raise the fees to a maximum of $10 per filing or search by rule and regulation. Our Senate Budget sub-committee suggested this provision to prevent the necessity of returning to the legislature every time market changes occurred. The statute already permits us to lower the fees if costs decrease as they would if volume increased again.

	Current	Proposed	Nat' Avg.	Oklahoma	Missouri	Colorado	Nebraska
Fee for filings	$3 std./ $5 non-std.	$6 std. $6 non-std.	$6 std. $10 non-std.	$10 std. $10 non-std.	$6 std. $8 non-std.	$5 std. $6 non-std.	$4 std. $7 non-std.
Fee for add. pages	$0	$1	$1	$5	$1	$1	.50
Search fee	$5 plus .25 for each listing after first 10	$8	$8	$6	$8	$7	$7

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Comparison U.C.C.
Revenues vs. Expenditures

	Revenues		
■	Revenues		
▨	Expenditures		

Projected
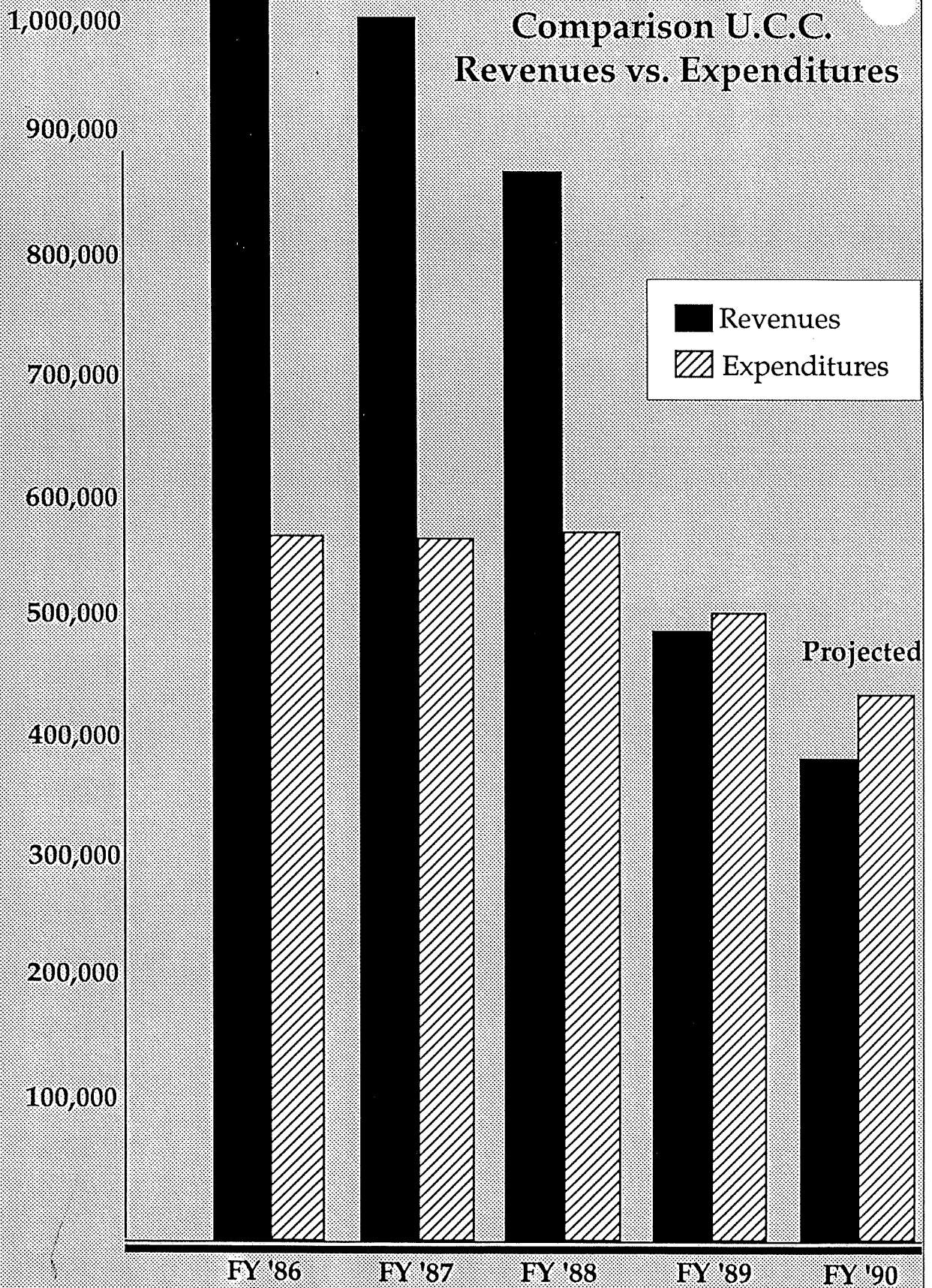
	FY '86	FY '87	FY '88	FY '89	FY '90
Revenues	$1,094,341	$1,017,265	$892,928	$506,639	$374,368
Expenditures	$587,041	$587,248	$591,100	$525,169	$454,127

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Bill Graves
Secretary of State

2nd Floor, State Capitol
Topeka, KS 66612-1594
(913) 296-2236

STATE OF KANSAS

TESTIMONY BEFORE THE HOUSE APPROPRIATIONS COMMITTEE

April 2, 1990

Senate Bill No. ~~730~~ *731*

S.B. ~~730~~ *731* was recommended by the Division of Legislative
Post Audit after conducting an audit of our office. It
raises our imprest fund from $4,000 to $10,000.

The imprest fund is an account at a local bank that is
used to issue refunds to customers who have made
over-payments for services or filings. The money is then
restored by a voucher from the appropriate state account.

Although we have never overdrawn the account, the volume of
refunds was sufficient to prompt the auditor to recommend
this increase.

John Wine
Assistant Secretary of State

Kansas Department of Social and Rehabilitation Services

Testimony Presented to

The House Committee on Appropriations

Regarding

House Bill 2578

on

April 2, 1990
12:00 Noon
Room 514 South
Capitol Building

Presented by:

Al Nemec, Commissioner
Mental Health and Retardation Services
Department of Social and Rehabilitation Services
Telephone (913) 296-3773

Thank you for allowing me to present to you today on HB 2578. This bill establishes a Governor's Commission on Mental Retardation Services. In our opinion the establishment of such a commission is an excellent and necessary step in further developing quality MR/DD services in Kansas. In fact, I have taken the initiative to form an advisory committee patterned after HB 2578. The whole committee has met three times and many more times in working task forces. This is the first time such a complete cross section of MR/DD interests have met together to discuss all phases of MR/DD service delivery and the needs of those who receive services. An opportunity to share concerns and discuss plans with such a broad range of interested parties is in itself invaluable. In addition, progress towards improved service delivery has already been made because of these meetings. Some issues the group has addressed in this short time include:

1. Assigning primary responsibility in serving individuals who are both MR/DD and MI

2. Developing a new more accountable, easier to understand non-Medicaid funding formula for community programs

3. Research is being done on behalf of the group to determine why individuals, particularly children, are admitted to state institutions

4. State institutions are developing professional outreach plans to assist community programs at the request of the group

5. The department of Health and Environment is working with the committee to modify nurses aid training to meet the needs of ICFs/MR.

In the future we anticipate the development of a strategic plan which will not only state the direction of MR/DD services in Kansas but how these services will be organized and funded. In the short term, members of the group will be requested to review and provide recommendations regarding a new ICF/MR rate reimbursement system.

In short, I am very pleased with what has been accomplished by this group thus far and I am very enthusiastic about how much more an officially sanctioned commission could accomplish.

Based on our brief experience, however, I do have some minor suggestions for amendments to this bill which I believe would make the commission even more effective.

1. The commission should be renamed the Governor's Commission on Mental Retardation and other Developmental Disabilities. This change would be in keeping with nationwide trends to focus the discussion of all developmental disabilities concerns into one responsible commission. This would help to reduce the fragmentation of recommendations resulting in more appropriate service development and efficient use of available funding.

2. The reference to the number of members on the committee should be deleted. It is my opinion that a smaller commission could be more effective. I would not recommend reducing the number of interests the commission represents, however, since it is very possible for one member of the commission to represent more than one of the interests listed. For example a Board

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member of a community agency who is a parent of a developmentally disabled child could very appropriately fulfill the role of advocate as well as representative from a community facility. A community agency which operates a small ICF/MR could represent both a community agency and an ICF/MR provider. Therefore, all of the interests identified in the bill could possibly be represented with a group smaller than 21 members.

3. The number of advocates should be increased to four to better represent the needs of individuals with mental retardation and/or developmental disabilities.

4. The Commissioner of MH&RS or his designee should be included on the commission.

5. Representation should be included from the University of Kansas Affiliated Program and the Kansas Planning Council on Developmental Disability Services.

6. There should be provisions that the members of the commission could be reappointed after their term expires.

I feel these changes could improve the functioning of the commission.

Thank you for allowing me to present to you in favor of HB 2578. If you have any questions, I would be happy to address them.

KANSAS DEPARTMENT OF SOCIAL AND REHABILITATION SERVICES

Testimony before

The House Committee on Appropriations

Regarding

House Bill 3108

on

April 2, 1990
12:00 p.m.
Room 514 South
Capitol Building

Jan Allen, Commissioner
Adult Services
Telephone # 296-6959

Testimony on Mandatory Pre-Admission Screening

The Department of Social and Rehabilitation Services (SRS) supports the concept of HB 3108 which would make Pre-Admission Screening Services available on a statewide basis for private pay nursing facility applicants as well as Medicaid and potential Medicaid recipients.

Expansion of this service would allow individuals access to assessment and planning that should result in placement in the least restrictive setting compatible with the individual's needs. It enables the individual and family to become aware of available services and resources in the community and make an informed choice about the care of the family member needing long term care services.

Pre-Admission Screening is currently mandated in Kansas prior to authorization of Medicaid money to pay for 1) Medicaid/MediKan applicants/recipients actively pursuing admission to an Adult Care Home (ACH); 2) Individuals who have been residing in an adult care home for less than six months who are now making application for Medicaid; 3) Applicants/recipients currently residing in an Intermediate Care Facility (ICF) but being transferred to an Intermediate Care Facility for the Mentally Retarded (ICF/MR); and 4) Individuals residing in the community whose medical needs make them vulnerable to adult care home placement if other services are not offered.

A Pre-Admission Screening assessment is a comprehensive look at an individual's medical, social, psychological, and financial needs as they impact placement decisions; and includes development of a care plan and follow-up required to implement the plan. The Kansas Assessment Instrument is administered and completed by a team consisting of a Registered Nurse, and Social Worker in consultation with other involved professionals.

Diversion of persons who otherwise could not make an informed choice to less costly and more appropriate community placements conserves the persons funds, as well as scarce public dollars needed for care. The average private pay client living in a nursing facility becomes a Medicaid client in less than a year. Even if the original placement is premature or unnecessary, many of these individuals lose the community ties and become long-term nursing home clients. We find few clients after six months in the adult care home are in a position to return to the community.

While the Pre-admission Screening proposed is required under this bill, the recommendation is not binding. Pre-screening is not only a method that can be used to control who enters ACH, but also a way of providing information about available services to individuals and their families. Some can make those linkages on their own, others who need on going assistance in obtaining services can be referred to a more formalized case management and other services (private or public), depending on their resources.

Regarding charging a fee, we have a question. Is it appropriate policy to mandate screening and then require a person to pay for that screening? While the procedure can be a benefit to families, the taxpayers will see it more as a benefit to the State and its desire to control Medicaid costs. In addition, we

would suggest language in Section 3 that would allow us to implement this program as soon as possible after July 1, 1990.

In FY 1989, 4910 Medicaid individuals entered an Adult Care Homes (ACH). We estimate another 4900 private pay individuals were admitted during the same period. Under the current pre-screening policy, approximately 2000 (Medicaid only) were pre-screened. Fifty-four percent of those pre-screened were diverted into community based services. The majority of the Medicaid recipients not pre-screened went directly from the hospital into an ACH.

Currently, we have the full time equivalance (FTE) of four teams. The registered nurses are paid through Home Health Agencies and Public Health Departments; the social workers are SRS staff. Specific SRS staff designated with pre-screening responsibility would need to be established statewide, due to the volume of work and the timeliness required.

A fiscal note is being prepared which will indicate that additional state and federal funds will be needed to expand the pre-screening. We believe, however, that by expanding the screening more individuals can be served in the least restrictive environment at a lower cost. Eventually, the cost of care should decline more than the cost associated with an expanded screening program with an overall net savings to the taxpayers of the State.

KINH Kansans for Improvement of Nursing Homes, Inc.

913 Tennessee, suite 2 Lawrence, Kansas 66044 (913) 842 3088

TESTIMONY PRESENTED TO
THE HOUSE APPROPRIATIONS COMMITTEE
CONCERNING HB 3108

SCREENING OF ADMISSIONS TO ADULT CARE HOMES

April 2, 1990

Mr. Chairman and Members of the Committee:

It has long been an accepted view that there are some people in nursing homes
who do not need that level of care but who could have continued to function
independently if appropriate services were offered in the community. Most
people would clearly prefer to remain in their own homes if at all possible; few
know that, more and more, there are community services available that would
assist in keeping them out of nursing homes -- such services as homemaker
services, home health aides, visiting nurses, meals on wheels, and companion
aide services.

The decision to enter a nursing home or to urge nursing home care on a frail
relative is too often made without full knowledge of the alternatives. Mandatory
screening of all persons applying for nursing home placement is not only a tool
to assess the nursing home needs of the person applying for entry, but also
presents an opportunity for advising that person of community options that
they might wish to consider as an alternative to nursing home care if the
screening indicated that they could function with a lesser (and less costly)
level of assistance and remain in their own home.

One point must be made very clear. The screening is not a mechanism to limit
the choices of the kind of long-term care that non-medicaid applicants may
avail themselves of. It is, in fact, a mechanism for assuring that the widest
possible choice is made known to them. If it is their choice to enter a nursing
home, they are free to do so; if it is their choice to seek other alternatives,
advice will be available to them as to what other possibilities exist in the
community.

At the present time, all persons whose income is within the guidelines for
Medicaid assistance must be screened or assessed, and determined to be in need
of nursing home care before Medicaid will reimburse for that level of care.
This is not generally a problem for persons who are applying for nursing home
admission already Medicaid eligible. It has, on occasion, created a problem for
persons who have entered the nursing home as private pay residents without
screening and, having subsequently exhausted their resources, must then apply
for Medicaid assistance. Though they might then be determined not to need
nursing home care, they have by that time burned their bridges behind them;
they have no home to return to. It is too late to make the most effective use
of community alternatives.

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The one problem we see in HB 3108 is the provision that the secretary of SRS may require the person who is not Medicaid eligible to pay the cost of the screening. In prior attempts to pass legislation similar to HB 3108, it has been this requirement that has defeated it. KINH believes that the state stands to gain far more from savings resulting from caring for people in their own homes than it would pay for screening all those seeking nursing home admission, and that it would be cost effective for the state to support the cost of all screening.

Assessment of all nursing home admissions offers a tool to advise and counsel older persons and their families at a critical decision point in their lives. Long term cost savings might be realized by both the state and the private individual by directing those persons toward a less costly and generally more satisfactory form of care. Further, data gathered in the process of assessing all persons applying for nursing home admission would permit the state to identify needed services, to determine where gaps in services exist and to encourage community development of a range of services.

KINH urges your support for HB 3108.

MEMORANDUM

Date: April 2, 1990
To: HOUSE COMMITTEE ON APPROPRIATIONS
From: John R. Grace, President
Kansas Association of Homes for the Aging

RE: House Bill No. 3108
===

Our association represents over 125 not-for-profit adult care homes and retirement communities across the state.

First of all, we note that current statute does allow for a voluntary screening program for ineligible persons and we fully support such programs. **A screening does occur when a resident does make application for medicaid and the state determines appropriate services for the resident.**

We believe that those older persons who are not medicaid eligible have the right to choose the kind of care and services that best meets their individual needs. We have strong concerns over the involvement of the state in the lives of older persons who are self sufficient in their daily lives. What an older person or any one of us does with our money (providing it is within the law), prior to becoming a responsibility of the state, is our own business and no one else.

In HB 3108, language in lines 17-24 prevent the admission of anyone to an adult care home without having undergone this pre-screening. Most admissions to adult care homes occur at "crisis points", those times when the resident is being discharged from a hospital, when the family from out of town is home and finds their parent confused and disoriented, etc.

Mandating that this screening occur prior to admission will result in increased hospital costs and could endanger the health of persons who need admission in a short period of time.

634 SW Harrison • Topeka, Kansas 66603 • 913-233-7443 • Fax: 913-233-9471

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4-2-90

Attachment 7

Memo
Date: April 2, 1990
HOUSE COMMITTEE ON APPROPRIATIONS
John R. Grace, President

Therefore, we would propose the following
amendment:

    (b)"notwithstanding the provision of
subsection (a), a person may be provisionally
admitted to an adult care home pending the
implementation of screening, evaluation and
referral services provided by the Secretary".

This will allow the staff of the agency enough
time to complete the process and the resident
can receive the care needed.

Secondly, if the state is going to require this
screening, then the state should pay the costs.

Third, it is our understanding that this
screening process is "advisory and not binding"
so that should the resident elect the services
of an adult care home, they would be allowed to
do so.

Thank you Mr. Chairman and members of the
committee.

η. 2

Kansas Department of Social and Rehabilitation Services

Testimony Presented to

The House Committee on Appropriations

Regarding

House Bill 3106

on

April 2, 1990
12:00 Noon
Room 514 South
Capitol Building

Presented by:

Al Nemec, Commissioner
Mental Health and Retardation Services
Department of Social and Rehabilitation Services
Telephone (913) 296-3773

Thank you for allowing me to speak with you today about HB 3106.
HB 3106 provides the Secretary of SRS the authority to adopt limits
on the number of ICF/MR certified beds. The House of
Representatives recently passed an appropriation for ICFs/MR of
$11.7 million SGF ($27.2 million all funds). This level of funding
is only sufficient to fund facilities which are currently
certified. If any additional facilities are certified this fiscal
year or next SRS will exceed the level of appropriations
recommended by the House for this program. With projected FY 91
growth (138 beds) in ICFs/MR $3.3 million SGF, $7.58 million all
funds, would have to be added to the House appropriations for
ICFs/MR to fully fund the program. That overexpenditure would
occur even though SRS is aggressively pursuing modifications in the
method by which ICFs/MR are reimbursed. Therefore, if SRS is
expected to stay within the House appropriation for ICFs/MR the
Secretary must have the authority to limit the number of certified
beds.

As you are already aware MH&RS plans to submit an application for
a new expanded HCBS-MR waiver to the Health Care Financing
Administration. Waiver funded programs serve the same individuals
as are served in ICFs/MR frequently for less cost. The number of
people Kansas is allowed to serve on the waiver is based on a
simple formula. The number of people served in waiver and ICF/MR
services can not be greater than the number of people which would
have been served in the absence of the waiver. Therefore,
expanding the MR waiver can only be justified using two approaches.

Either the number of existing ICF/MR beds must be reduced or the development of new future ICF/MR beds must be avoided. It is anticipated that the new waiver application will use a combination of these approaches with approximately one half of the proposed expansion being based on the avoidance of the development of new ICFs/MR.

This bill raises a question relative to the waiver. Will HCFA reject the application to expand the waiver to avoid future ICF/MR growth since the Secretary is likely to stop ICF/MR development to meet appropriation constraints whether the waiver is approved or not? This question was asked of Bob Gettings and Gary Smith from the National Association of State Mental Retardation Program Directors. These individuals represent state government in Washington, DC and are experts in federal medicaid policy. They have advised that an absolute lid on ICF/MR expansion would likely have an adverse affect on a new expanded waiver application. They indicated, however, that if the Secretary limited ICF/MR development pending approval of the new expanded waiver and this limit on expansion is not administered as an absolute lid on ICF/MR development there should be little or no adverse affect on the new waiver application. The wording of the bill has been reviewed with Gettings and Smith and they feel the bill as currently worded meets their recommendations. The wording poses what Gettings calls "a creditable threat" of new ICF/MR development in the absence of federal approval of an expanded waiver.

Therefore, this bill addresses two critical issues. First, it

gives the Secretary the authority to temporarily or permanently limit growth in the ICF/MR program so that the cost of the program does not exceed the amount appropriated for it, and it presents a creditable threat to HCFA that if they do not approve a substantial expansion of the HCBS-MR waiver in Kansas, SRS and the legislature will once again allow growth of ICFs/MR causing not only increased cost to Kansas but to HCFA as well.

SRS does have some minor technical recommendations to the bill. First, the word _intensive_ on line 11, 18, 24, 29, 31 and 34 should be changed to _intermediate_. And in order to provide the Secretary the greatest latitude possible in meeting special circumstances delete _expansion of the_ on line 17. This will allow the Secretary to vary the size of the program throughout the year to meet special or unexpected needs.

If you have any questions I would be happy to address them at this time.

8-4

TO: House Appropriations Committee

FROM: Yo Bestgen
           Executive Director

RE: H.B. 3106

DATE: April 2, 1990

As of July 1, 1990 the Secretary would impose a limit on the develop-
ment of new ICF/MR's pending the approval of an HCBS Waiver, in a
timely manner.

Issues to consider:

1.)   Community programs have been criticized for not providing services
for the severe and profoundly mentally retarded, especially to the
residents of institutions who have moved to the community.

2.)   ICF/MR's have provided the level of programming to serve that
population. Community programs were encouraged by SRS in the past year
to develop those programs. The ICF/MR program allowed the State of
Kansas to close Norton State Hospital and turn it to a Correctional fa-
cility.

3.)   Of the programs prepared to open in the next six months, ap-
proximately half would be from State Institutions or large ICF/MR's.
The other half coming from special education classrooms for the severly
multiply handicapped or waiting at home and unserved.

4.)   If this statute were in place, then for each of those placed into
a small ICF/MR from a State Institution or a large ICF/MR then that bed
would be eliminated. Would this statute be implemented as written and
allow this exchange of ICF/MR beds to occur? If so, would the funding
follow the client?

   If this process were implemented, the limits on the number of beds
would be advisable. It is not advisable if it is intended to stop the
development of small ICF/MR's and not allow this level of programs for
the severe and profoundly retarded in community programs. Our concern
is that although a plan to begin this process was proposed, it has been
delayed.

5.)   The intent of this legislation is to limit the number of ICF/MR
beds in exchange for an expanded HCBS Waiver. We support the expansion
of the HCBS Waiver, however, the language of this bill is vague. It
states that the HCBS waiver should be approved "in a timely manner".
It is our understanding that the time frame can be as short as six
months and as long as eighteen months. We would recommend that a date
be stated, such as the start of the 1991 Legislative session.

6.)   KARF agencies have been working in a good faith effort with MH/RS
to design a rate reimbursement methodology to link the rates paid to

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Attachment 9

the level of need of the client. This bill does not provide any crite-
ria for the Secretary to be guided with regard as to how these limi′
′ill be determined.

/.)   This statute could have potential critical fiscal impact on agen-
cies in process of ICF/MR development.   KARF would request that you
evaluate what would do the least harm to the agencies that would be
fiscally jeopardized.

8.)   This language could jeopardize the access to the HCBS waiver.   It
It waters down the ability of the State to negotiate with HCFA even
with the language that threatens to open new ICF/MR's if the waiver is
not approved.   The experts from Washington recommended this language,
however, they also stated that the most powerful tool with HCFA is a
"credible threat".   That is to limit the number of ICF/MR beds only af-
ter the waiver is approved.   We should be aware that this is a riskier
position.