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STATE OF OKLAHOMA
NEEDS ASSESSMENT

Submitted to:

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EXECUTIVE SUMMARY

INTRODUCTION

Government and private sector agencies alike are finding an increasing need for the interrelation between a land-based information system and data processing resources, graphic and nongraphic attribute data, and mapping operations. The common name given to this growing area of processing is Geographic Information Systems, or GIS. GIS technology is already proliferating within state agencies and public organizations in Oklahoma.

This proliferation of various systems within organizations for the storage and analysis of geo-related information presents numerous problems, including incompatibility of hardware and software, redundant data gathering and storage, and inefficient use of the technology.

With this concern in mind, the Oklahoma Ad Valorem Task Force has funded a project initiated by the Natural Resource Cabinet GIS Committee, through Oklahoma State University and PlanGraphics, Inc., to establish a strategic plan or framework for the future development and implementation of GIS technology within Oklahoma state government agencies.

Ad Valorem Task Force Statewide Reappraisal Effort

Under the provisions of HB 1750 and HB 1388, the Oklahoma Ad Valorem Task Force (AVTF) is mandated to develop a mapping and parcel identification system and a uniform computer-assisted mass appraisal system for real or personal property within the State of Oklahoma by January 1, 1992. The goal of this effort is to allow individual inspection of all taxable real property at least once every four years. This information will be used to determine the fair market value of taxable real property in Oklahoma on an annual basis.

The AVTF will monitor the progress and coordinate each phase of the reappraisal system in each county of the state. It will initiate training programs, including detailed instruction manuals, to assist the mapping and computer-assisted mass appraisals (CAMA) system users in day-to-day operations and in maintenance of the system.

The development of these technologies and databases in every county of the state holds much potential for better decision-making and improved revenue generation capability for both state and local governments. Because of this great potential, the Ad Valorem Task Force chose to focus some of its energies on developing a better understanding within state government regarding the development of GIS technology within state agencies.

Oklahoma State University and PlanGraphics, Inc., have worked together to establish a baseline understanding of State programs, operations, data processing resources, and information exchange. This has been accomplished through workshops, interviews, and

surveys involving 16 state agencies and select external private sector organizations. This *Needs Assessment* documents the results of this process. This document, together with the *Functional Requirements Report* and the *Strategic Plan*, will form the basis for recommendations regarding a *Conceptual GIS Configuration* for Oklahoma State Government.

The purpose of this report is to describe existing mapping and computer resources within state government and to examine the relationship between state agency activities, information flow, and data exchange, and to look at these relationships in light of functional and data interaction with local and federal entities.

Existing Resources

A GIS integrates the information needs of different users by providing a framework for sharing data. It is essential to examine the environment within which data is currently being used since a successful implementation must be sensitive to the work flow and procedures that already exist. This section will review existing GIS efforts currently taking place within Oklahoma state agencies, and the overall current data processing environment which exists indicating the nature of various agency dependencies on computing resources and information.

It is important to ascertain how current resources will support GIS implementation, or how existing systems might communicate and share data within a state GIS environment. Existing GISs, and existing automated data efforts, indicate where state agencies have found a strong need to make use of spatially referenced data and indicate likely priorities for guiding the implementation plans for GIS applications. These databases, and the systems they currently exist on, may potentially contribute data and communications to a shared GIS among Oklahoma state agencies.

Nearly 150 different map sets are being utilized by Oklahoma state agencies. There are 115 automated data sets which have been identified through this survey. Over 80 percent of them contain a geocode reference. These various data sets represent a significant investment to the state when analyzing the potential for GIS development in Oklahoma. These data resources created and maintained within state agencies exist for reasons specific to the activities that occur within each agency. These activities exist because of mandates, regulations, or directives that have been legislated.

As within most other states, geographic information systems are beginning to emerge in Oklahoma. The trend toward GIS is becoming more prevalent as governmental agencies discover that traditional methods of map production and geographic analysis are being revolutionized through this innovative technology. Within the State of Oklahoma, ten agencies are engaged in differing levels of GIS development for their benefit and the benefit of other agencies and governmental units, the executive branch, the legislature and the general public.

The focus of this *Needs Assessment* is intentionally oriented toward policy level analysis, to accommodate strategic planning for the development of GIS technology at the state level. It is anticipated that a more detailed study of specific requirements will be undertaken to prepare for successful implementation of the technology within individual agencies or groups of agencies.

Observations

Several preliminary conclusions emerged from this initial analysis of the current function and resources of these 16 Oklahoma state agencies. They include the following.

Lack of Coordination

Each of the individual agency GIS development efforts has been independent of any planning or coordination with other agencies. As a result, much of the advantage to be gained through the use of the technology has not been realized. While GIS serves a useful purpose in automating individual agencies, the tremendous potential of the technology is gained by sharing and integrating information between agencies to improve all state functions in ways that were difficult or impossible in the past.

Potential for Data Sharing

A considerable potential exists for sharing information between various state agencies within Oklahoma. This potential is based on the extensive number of departments and divisions within agencies that perform similar or related functions. Many of these departments and divisions currently use much of the same data, often collecting and storing it in different ways.

Focus of Suggested Applications

Based on the current activities of state agencies and the activities indicated as important by those agencies, it is apparent that GIS application development will have two primary emphases. One of these will focus on the application of demographic and economic data, while the other will focus on the application of natural resource, health, and transportation data.

Centralized vs. Decentralized Data Processing

The trend in Oklahoma state government seems to be away from centralized data processing and toward a more decentralized system approach. Individual agencies have begun their own internal data processing operations in many cases, thereby decreasing their dependence on central data processing facilities. Unfortunately, this trend has begun without adequate broad-based strategic planning and coordination, thereby limiting the potential for agency cooperation and data sharing.

Information Sharing with Local Governments

Many state agencies currently share data with local governments throughout the State. It is apparent that graphic and attribute parcel-based data is a key data set required by many state agencies. The potential for increased and improved information sharing between state agencies and local governments is enhanced by the current reappraisal and mapping project undertaken by the Ad Valorem Task Force in conjunction with the various local governments in the State.

Issues for Consideration

Following are some of the key issues that have been identified as a result of this needs assessment which must be examined in more detail as part of the strategic planning process. Resolution of these and other issues will be the primary function of the strategic plan and will be extremely important to the successful implementation of GIS technology in Oklahoma.

GIS Management

The development of GIS technology within state agencies must be managed within some organizational structure to ensure appropriate control of the technology and adequate communication between state agencies, local governments, and private sector groups participating in GIS development.

Standards

GIS standards and guidelines are one of the least understood and potentially most difficult issues that must be addressed. Standards for hardware, software, and databases are a key element in coordinating the development of GIS technology among state agencies. Among other things, standards ensure that data structure, content, and format are compatible and, thus, that data can be shared between agencies.

Database Development

Decisions surrounding the development of a common, shared database; responsibilities for update and maintenance of this data; and the development priority of resulting applications will be of primary concern throughout the strategic planning process. These decisions will necessitate that agencies understand their own requirements for data accuracy, currency, and scale and be willing to accommodate and coordinate the availability and requirements of data resident in other agencies.

Funding

A funding mechanism should be established to promote the appropriate and coordinated development of GIS within state agencies. GIS technology is a long-term investment that clearly pays for itself over the course of several years, if implemented properly, through

vastly improved efficiencies in current operations. As a long-term investment, it requires funding mechanisms that are often difficult to achieve in state governments.

Access

It is important to clearly define the policies that will affect public and government access to the significant assets created by GIS technology. The level of data exchange among the various levels of government entities, and the recognition that some important data exists within the private sector, outside the mandated and requirements of government, raise significant policy issues to resolve. Defining these policies before the technology becomes pervasive in state government will permit the state to maintain control of the significant investment to be made over the next few years in this technology.

Many questions must be answered by policymakers in the various state agencies regarding the ultimate objectives and direction of the Oklahoma GIS effort. The next strategic planning project tasks will serve to provide focus for the more detailed, technical implementation planning necessary for successful GIS development.

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SECTION 1
INTRODUCTION

PROJECT BACKGROUND

There continues to be tremendous change and growth in the area of computer-related data processing and mapping. Agencies and groups are finding an increasing number of situations where there exists the need for the interrelation between a land-based information system and data processing resources, graphic and nongraphic attribute data, and mapping operations. The common name given to this growing area of processing is Geographic Information Systems, or GIS.

GIS technology is already proliferating within state agencies and public organizations in Oklahoma. This proliferation of various systems within organizations for the storage and analysis of geo-related information presents numerous problems, including incompatibility of hardware and software, redundant data gathering and storage, and inefficient use of the technology. With this concern in mind, the Ad Valorem Task Force has funded a project through Oklahoma State University and PlanGraphics, Inc., to establish a strategic plan or framework for the future development and implementation of GIS technology within Oklahoma state government agencies.

AD VALOREM TASK FORCE STATEWIDE REAPPRAISAL EFFORT

Under the provisions of HB 1750 and HB 1388, the Oklahoma Ad Valorem Task Force (AVTF) is mandated to develop a mapping and parcel identification system and a uniform computer-assisted mass appraisal system for real or personal property within the State of Oklahoma by January 1, 1992. The goal of this effort is to allow individual inspection of all taxable real property at least once every four years. This information will be used to determine the fair market value of taxable real property in Oklahoma on an annual basis.

After careful review of recommendations and written standards of national assessing institutes and associations, the AVTF is implementing a program of revaluation that is based upon a photo-based digital mapping system or geographic information system (GIS).

The AVTF is developing a geographically referenced map and parcel numbering system (P.I.N.) utilizing the U.S. Rectangular Survey. This will allow each parcel in each county statewide to be indexed to its geographic location. The parcel identifier will also provide sequential routing in order to facilitate systematic valuation and processing.

The AVTF is acquiring aerial photography for the rural areas through a joint effort with ASCS. In addition, the AVTF may acquire the USGS land grid in digital form. This information will assist the counties in verifying the location of certain features on the photographs during the digitizing process.

The AVTF will monitor the progress and coordinate each phase of the reappraisal system in each county of the state. It will initiate training programs, including detailed instruction manuals, to assist the mapping and computer-assisted mass appraisal (CAMA) system users in day-to-day operations and in maintenance of the system.

The development of these technologies and databases in every county of the state holds much potential for better decision-making and improved revenue generation capability for both state and local governments. Because of this great potential, the Ad Valorem Task Force chose to focus some of its energies on developing a better understanding within state government regarding the development of GIS technology within state agencies.

REPORT PURPOSE AND CONTENT

Oklahoma State University and PlanGraphics, Inc., have worked together to establish a baseline understanding of state programs, operations, data processing resources, and information exchange. This has been accomplished through workshops, interviews, and surveys involving 16 state agencies and select external private sector organizations. This *Needs Assessment* documents the results of this process. This document, together with the *Functional Requirements Report* and the *Strategic Plan*, will form the basis for recommendations regarding a *Conceptual GIS Configuration* for Oklahoma State Government.

The purpose of this report is to describe existing mapping and computer resources within state government and to examine the relationship between state agency activities, information flow, and data exchange, and to look at these relationships in light of functional and data interaction with local and federal entities.

ORGANIZATION OF REPORT

This report is presented in five sections. Section 1 is the introduction to the project and this report.

Section 2 is an overview of current geoprocessing resources throughout state government, including data processing systems, maps, and nongraphic data sets.

Section 3 documents agency mission, current and planned GIS-related activities, and geographically related information system needs and priorities.

Section 4 diagrams current information flow among state agencies, between state and local agencies, and between state agencies and federal government agencies.

Section 5 contains a summary of information addressed in the report and presents a series of issues and recommendations for consideration.

ORGANIZATIONAL SETTING

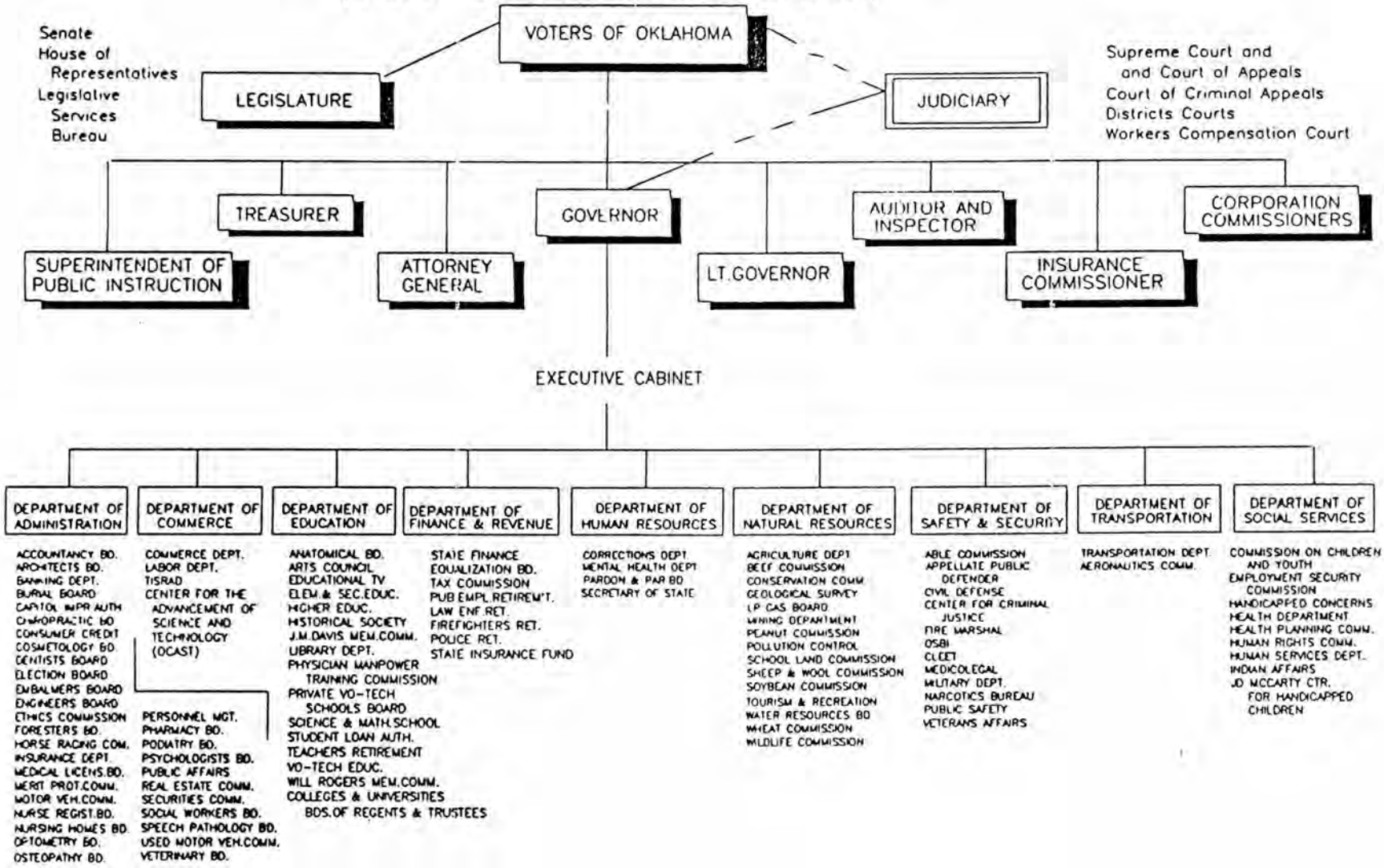
Overview of Oklahoma State Government

At the time this project began and the initial interviews were conducted, the state had just undergone a gubernatorial election. The organization of state government and the administration of cabinets and departments at the time of interviews was as organized under the previous administration. This organization is reflected in Figure 1-1. Some changes are expected to take place in organization which may affect the structure and recommendations of this and future reports of this project.

Departments Interviewed

Table 1-1 identifies the departments and individuals who were interviewed as a part of this study. These departments were selected after a preliminary review of those agencies who were currently using GISs, participating in the established GIS Steering Committee, or who were deemed to have potential for participation in the development of a statewide GIS.

FIGURE 1-1
OKLAHOMA – ORGANIZATION OF STATE GOVERNMENT (EXECUTIVE BRANCH SHOWN BY CABINET)



OSF/rr 8-4-88 (per latest Executive Order as of this date)

TABLE 1-1
INTERVIEW PARTICIPANTS

Department	Participants
Department of Agriculture	A.L. Bonner Mike Vandeventer
Oklahoma Climate Survey	Dr. Kenneth Crawford Howard Johnson Mark Shafer
Department of Commerce	Harly Lingerfelt Mark Warren Karen Selland
Oklahoma Conservation Commission	Ben Pollard John Hassell Tammy Schwatzki Mason Mungle
Oklahoma Corporation Commission	Larry Shaver Pam Hudson Bill Schmidt Peter Hernandez Steve Wilt Verne Ekstrom Jeanne Pickett Oscar Commings
Oklahoma Geological Survey	Dr. Charles Mankin Ken Johnson Terry Rizzuti Anne Mycek-Memoli Michelle Summers
Department of Health	Larry Gales Mark Coleman Dan Cameron
Land Office Commission	Dr. William Sharp Dan Hake Russell Woodward

TABLE 1-1 (continued)
INTERVIEW PARTICIPANTS

Department	Participants
Department of Mines	Murphy Vance Bob Springer
Department of Pollution Control	David Jennings Dr. Larry Edmison
State Regents for Higher Education	Dr. Joe Hagy Dr. Sharon Panon Director of Data Processing
Oklahoma Tax Commission/ Ad Valorem Division	Bob Hartman Becky Adams William Mack
Department of Tourism & Recreation	Mike Moccia John McWhirter Mike Boldman Doug Hawthorne
Department of Transportation	Montie Murphy Mike Talley Dwight Hixon Darrell Hanry Jerry Johnson Gerald Middleton Jack Blaess Delbert Carman Larry Griffen Curtis Hayes Darrell Richardson
Oklahoma Water Resources Board	Jim Schuelein Jann Hook
Department of Wildlife	Bill Swain Ron Suttles

SECTION 2
CURRENT RESOURCES

INTRODUCTION

A GIS integrates the information needs of different users by providing a framework for sharing data. It is essential to examine the environment within which data is currently being used since a successful implementation must be sensitive to the work flow and procedures that already exist. This section will review existing GIS efforts currently taking place within Oklahoma state agencies, and the overall current data processing environment which exists indicating the nature of various agency dependencies on computing resources and information.

It is important to ascertain how current resources will support GIS implementation, or how existing systems might communicate and share data within a state GIS environment. Existing GISs, and existing automated data efforts, indicate where state agencies have found a strong need to make use of spatially referenced data, and indicate likely priorities for guiding the implementation plans for GIS applications. These databases, and the systems they currently exist on, may potentially contribute data and communications to a shared GIS among Oklahoma state agencies.

EXISTING DEPARTMENT SYSTEMS AND APPLICATIONS

Existing GIS Efforts

As within most other states, geographic information systems are beginning to emerge in Oklahoma. The trend toward GIS is becoming more prevalent as governmental agencies discover that traditional methods of map production and geographic analysis are being revolutionized through this innovative technology. Within the State of Oklahoma, several agencies are engaged in GIS development for their benefit and the benefit of other agencies and governmental units, the executive branch, the legislature, and the general public. The agencies that are currently utilizing some type of GIS include the Department of Agriculture, the Department of Commerce, the Corporation Commission, the Oklahoma Geological Survey (OGS), the Department of Mines, the Oklahoma Tax Commission/Ad Valorem Division, the Department of Tourism and Recreation, the Department of Transportation, and the Water Resources Board. The activities of each of the aforementioned agencies are outlined in the text which follows.

<u>Department of Agriculture</u>

The Plant Industry Division of the Agriculture Department is currently developing a system which utilizes Convergent Technologies hardware and Unimaps software. The hardware is comprised of one 386 B-25 workstation and three 286 B-25 workstations. Other hardware

includes an Accel 500 dot matrix printer, a Calcomp 1025 pen plotter, and a Calcomp 9500 digitizer. The software is a raster-based system called Map Designer.

The Plant Industry Division is using information provided by the Soil Conservation Service to develop a land use database. The database will allow the Division to plan the use of pesticide and fertilizer resources, and to make site selections for the storage of such resources.

Department of Commerce

The Department of Commerce utilizes pcARC/INFO on an IBM PS/2 Model 80 computer to access the TIGER Line Files that are housed and maintained by the Oklahoma State Data Center. The Department's principal application of the equipment is to access census tract maps of each Oklahoma county.

Corporation Commission

The OCC Division of Transportation uses a pc package, Freelance MAPPS. Within their database, the Division maintains county boundaries, major cities, and county and state highways.

Oklahoma Geological Survey

The Oklahoma Geological Survey (OGS), in conjunction with the University of Oklahoma Department of Geological Information Systems, has access to mapping services and particular sets of data on the OU IBM 3081K mainframe. A digital land grid, donated to OU by Phillips Petroleum, is also located on the 3081K mainframe.

OGS, funded by a grant from the U.S. Department of Energy, is constructing a Natural Resources Information System (NRIS) for the State. Databases within NRIS contain location data which is currently mapped using the Phillips digital land grid and the SAS system. OGS also has access to Surface III on the OU mainframe, and they have recently acquired GeoGraphix, a PC-based GIS software package which works specifically with oil and gas well data.

OGS is developing several specific applications and databases which are tied to their digital mapping efforts. These include:

- The Oklahoma Well History Database, a computerized database containing oil and gas well completion reports
- The Oil and Gas Production Subsystem which contains monthly oil and gas production data by lease, field, and county for 1983 to the present
- The Oklahoma Gas Atlas, an atlas of the major gas reservoirs within the State
- The Oklahoma Oil and Gas Field Boundary Revisions, an effort to update oil and gas field boundaries using computer-generated lease/field maps and well spot maps.

Department of Mines

In its efforts to enforce and implement programs associated with surface and sub-surface mining, the Bureau of Mines has established a link to the Office of Surface Mining (OSM) in Denver. This link provides the Bureau of Mines with access to ARC/INFO through a Prime workstation. The Bureau also utilizes a Calcomp 9100 digitizer and a Roland GRX300 pen plotter. These various components provide the Bureau with the capability of developing three-dimensional hydrologic models for site analysis and watershed impact modeling.

Oklahoma Tax Commission/Ad Valorem Division

The Ad Valorem Office of the Oklahoma Tax Commission bought an AutoCAD system two years ago, with two digitizers and some peripheral devices. Their intention was to develop a base map of parcels in conjunction with the State Board of Equalization. After the initial investment in equipment, they decided the base mapping effort was too expensive and labor-intensive. The equipment remains in the Division offices as a resource for use in communicating with the current local reappraisal initiatives.

Department of Transportation

Various Divisions within the Department of Transportation are engaged in automated mapping activities. In the early 1980s, ODOT purchased a Calcomp CADD system, but it didn't have the capacity that was ultimately needed. In 1985, the Department acquired Intergraph hardware and software for their digital mapping. Over 40 users now have access to a network of Intergraph UNIX workstations, VAX/VMS computers, and microcomputers.

Software that is operated within the Intergraph environment includes IGDS, Micro IGDS, and MGE. IGDS is primarily a CADD package, whereas MGE provides GIS capabilities. Several specific applications have also been developed in-house which allow limited GIS functionality. These applications include Datamap which plots maps of the State Highway System, highlighting sections of interest; USGSDRAW which plots USGS roadways and railroads by county; and Job Piece Visualization which overlays selected construction and maintenance operations on a base map of the State Highway System.

The ODOT Survey Division is working with USGS to digitize 7.5 minute quads of the state on the Intergraph system. This effort is very near completion effort. The State Highway System has also been digitized, but county highway data has been scanned into a raster format and awaits conversion to vector. A pilot project at the county level has been proposed to complete county highway segments, but no specific time frame or schedule has been adopted.

Department of Tourism and Recreation

The Division of Planning and Development is currently engaged in several automated mapping efforts for the Department. The Division utilizes AutoCAD on both an Intel 286

and 386 for mapping state parks, developing project designs, and keeping track of park signs. The Division also uses a package called LandCadd for landscape design projects entailing site analysis, contouring, and terrain modeling.

Other division within the agency maintain data bases on both micro and mainframe computer that could be included in a GIS. For example, the Division of State Parks maintains state park visitation records on both micro and mainframe. The Division of Marketing Services maintains demographic, survey and geographic information on micro computer that is utilized for geodemographic analysis. The Division of State Records also maintains guest information for each of our five state resorts that has a geographical reference.

Water Resources Board

Historically, this agency has done a great deal of manual mapping. Within the last six months, the Drafting Division has begun using AutoCAD for custom map production. They've identified a couple of groundwater projects and a couple of clean lakes projects to begin the mapping component of the automated system.

The Water Resources Board also maintains a substantial amount of data that has the potential of being included in a GIS. The two principal hardware platforms that are used in handling this data are the IBM 3090-200S, with an MVS/XA operating system, housed at the Computer Center of Oklahoma State University, and several IBM PS/2s that are used within Water Resources. The various application databases include the Water Use Data System, the Permit Information and Compliance System, Groundwater Quality, Complaints and Spills, Dam Inventory, etc.

Current Data Processing Environment

The aforementioned agencies, systems, and applications are the principal activists in implementing GIS technology. However, there are other resources within Oklahoma state government which could potentially contribute to the development of a state GIS.

Throughout the 1970s, the prevailing philosophy regarding the delivery of computing services was based on the notion of a centralized system of processing and service delivery. The Office of State Finance houses the central data processing system for Oklahoma state government and in this capacity provides centralized batch processing, and supplies hardware, software, and technical support for some agency applications. The Office maintains a Planning Services Division which coordinates and oversees the purchase and requisition of computer equipment. The central system consists of an IBM 3090 and a DEC/VAX 6240.

Although most state agencies still rely on the Office of State Finance for payroll, insurance, and other computerized administrative functions, some agencies began in the early 1980s to develop stand-alone system capabilities. While some of these agencies, such as the Department of Transportation have extensive mainframe systems, it has only been within the last few years, with the advent of the IBM AS 400 and affordable PCs, that state agencies have moved toward automation. Table 2-1 details existing data processing systems and applications within each state agency interviewed.

Table 2-2 identifies current data processing application programs which are operational within the systems resident in Oklahoma state agencies.

TABLE 2-1
EXISTING SYSTEMS BY DEPARTMENT

System	Software	# of Users	# of Applications
Department of Agriculture			
NGEN 386/CTOS, NGEN 386/VM, NGEN 286/EV	Map Designer	4	blank
Ad Valorem Task Force			
AST 386/33, DOS 4.01	N/A	N/A	N/A
Oklahoma Climatological Survey			
IBM 3081	MVS, SAS	N/A	3
MS/DOS Compatible PCs	MS/DOS, Surfer, Quatro,	5	As Needed
Oklahoma Department of Commerce			
PS/2 Model 80	pcARC/INFO	1	Many
IBM Model 3090	Censpac, SAS Foxbase+	Multiple	Multiple
Oklahoma Conservation Commission			
IBM 9404 (AS 400)	Q & A, Lotus 2.2	9	7
IBM PS/2 Models 50, 70 and 80	Q & A, Lotus	5	7
IBM XT, IBM AT, EVEREX	DBase III, Q & A, Lotus	3	7
IBM XT, IBM PS/2 Model 80	Q & A, Lotus 123 (2.2)	2	5
Zenith PC	blank	1	1
Oklahoma Corporation Commission			
IBM 3090/MVS (ESA)	CICS, others	100+	5
Kaypro XT	DBase III+	2	1
WANG VS7110	PACE, WP+, others	43	

TABLE 2-1 (continued)
EXISTING SYSTEMS BY DEPARTMENT

System	Software	# of Users	# of Applications
Oklahoma Gelogical Survey			
IBM 3081 K, OS/MVS/XA-SP 2.2 with JES2/2.2	COBOL, SAS, GIPSY	5	4
IBM PS/2, Compaq	DBase, Lotus, KeyEntry III	25	1
IBM 36	Lotus, Microsoft Word, DBase IV, Chartmaster, Diagram Master, Show Partner F/X, EasyCad, Map Master, Microsoft Chart, Sideways, Crosstalk, Time Line, Work Exchange, Laplink, Norton Utilities	3	blank
IBM 50, IBM XT, Zenith 158 XT	Lotus, Microsoft Word, DBase IV, Chartmaster, Diagram Master, Map Master, Microsoft Chart, Crosstalk, Norton Utilities, Time Line, Work Exchange, Laplink	7	blank
DELL System 310/386	Wordperfect, DBase IV	1	blank
Macintosh II/CX, Macintosh SI	Microsoft Word, Pagemaker, Hypercard, Apple File Exchange, Folder, Super Paint, Custom Fonts, Fast Back II, and Mac Link	7	blank
Office of State Finance			
IBM 3090/180E, MVS/ESA	TELON, Easytrieve+, SAS, APL,	blank	blank
DEC/VAX 6240	VMS	blank	blank

TABLE 2-1 (continued)
EXISTING SYSTEMS BY DEPARTMENT

System	Software	# of Users	# of Applications
Oklahoma State Department of Health			
IBM 3400, DB2	SAS, PS/2, Custom	20	4
IBM 286 Network, Novell	RBase, SAS, DBase, Fox Pro,	20	In-house
Compaq 386, Compaq 286, DOS 4.0	DBase III+, Wordperfect,	20	blank
IBM 386, DOS, UNIX	Symphony, Oracle, AIRS	8	blank
IBM PC, DOS	Symphony, AIRS	1	blank
IBM 3081 Mainframe	blank	blank	blank
IBM-AT File Server	DBase III+, Lotus 123, Quatro	50	blank
IBM PS/2 Model 80	DBase IV, EasyCad, Manuscript	5	blank
Memorex/Telex Model 7045D	DBase III+, Wordperfect	12	blank
Commissioners of the Land Office			
DEC 4000 Model 300	Focus	100	blank
IBM PCs, 8088, 80286, 80386	Wordperfect, Q&A, Lotus 123	blank	blank
Oklahoma Department of Mines			
IBM PC (5), Compaq Desk Pro 386	Wordperfect, PFS, Lotus,	30	blank
386, Calcomp 381 digitizer, Roland pen plotter	Hydrology modelling & three	blank	blank
Oklahoma Pollution Control Board			
Mac II ci	Aldus Freehand, Foxbase	2	blank
Compaq 286	DBase	2	blank
State Regents of Higher Education			
Intel 80386, Power Mini, UNIX System V	Informix, SQL, 4GL, Ami,	64	3
IBM 3090, MVS/esa	JES2, COBOL, TSO/SPR, CICS, SAS	48	8

TABLE 2-1 (continued)
EXISTING SYSTEMS BY DEPARTMENT

System	Software	# of Users	# of Applications
Oklahoma Tax Commission - Ad Valorem			
Telex 386, IBM AT, IBM XT	Lotus 2.01, DBase III+, Word	3-4	1
Oklahoma Department of Transportation			
See DP Intergraph IGDS and IC5	15	blank	
IBM, MVS/XA	Earthwork, CEAL, IMS/DB2,	90+	blank
VAX/VMS, Intergraph Workstation UNIX	Intergraph, IGDS, CADD, MGE	75+	blank
N/A			
See Data Services Division Response			
Oklahoma Department of Tourism and Recreation			
MS DOS 3.0, Intel 286	AutoCad 10.0, Paradox 3.0,	7	4
MS DOS 3.3, Intel 386	AutoCad 10.0, Paradox 3.0,	7	4
IBM 9370 Model #7	GENER/OL, Easytrieve+, QuattroPro, LandCadd, Professional Write	1	1
MS DOS Micro	SAS	1	blank
Oklahoma Water Resources Board			
IBM 3090-200S, MVS/XA	Model 204 DBMS, PL/I, SAS	20	3
IBM PS/2, Novell Advanced Netware 2.15	RBase for DOS, Paradox, WordPerfect, Lotus, SAS	60	30
Oklahoma Department of Wildlife Conservation			
IBM, NEC, Zenith, Epson, Tandon	Lotus 123, Wordperfect, SAS,	400	blank
Macintosh	MS-DOS	blank	blank

TABLE 2-2
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Climatological Survey			
SAS	University of Oklahoma	unknown	State border of Oklahoma
Oklahoma Department of Commerce			
Census Tract Maps for OK Counties	OK State Data Center	pcARC/INFO	TIGER/Line Files (final version)
Demographic Analysis		V. 3.4d	PL 94-171 redistricting data
Local Redistricting Assistance		Foxbase+	
Oklahoma Conservation Commission			
Spreadsheet	blank	Lotus 2.2	Nonpoint Source Water Quality Data
Database Management	blank	Q & A	Nonpoint Source Water Quality Data
Graphics	blank	blank	unknown
Accounting/Finance/Budgeting	blank	blank	unknown
Inventory Control	blank	blank	unknown
Spreadsheet	blank	Lotus	unknown
Database Management	blank	DBase III and Q & A	unknown
Communications	blank	ProComm	unknown
Scientific/Eng/Research	blank	blank	unknown

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Conservation Commission (continued)			
Accounting/Finance/Budgeting	blank	blank	unknown
Word Processing	blank	blank	unknown
Spreadsheet	blank	Lotus 123 (2.2)	AML Problem Area Data Sheets
Database Management	blank	Q & A	unknown
Scientific/Eng/Research	blank	blank	unknown
Inventory Control	blank	blank	unknown
Oklahoma Corporation Commission			
Well Inventory Data	OCC, State Oil Industry	CICS/Command Level COBOL	Many
Gas/Oil Allowables Data	OCC, Oil Industry	CICS/Command Level COBOL	Many
Mineral Owners Escrow Accounts	OCC, Tax Commission	DBase III+	Several
Orders Information System	OCC, Oil & Gas Industry	CICS/COBOL	Several
Underground Injection Central System	OCC	DBase III+	Several

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Corporation Commission (continued)			
Intent to Drill System	OCC	CICS/Command	Several
Motor Carrier Data	OCC	Level COBOL	Several
Oklahoma Geological Survey			
Oklahoma Gas Atlas	OK Geological Survey (OGS), Texas Bureau of Economic Geology	GIPSY & SAS	Used OK Well History Database, Oil & Gas Production Subsystem Lease Master File, Oil & Gas Production Sybsystem Field Master File; Created: Gas Atlas Reservoir File & Gas Atlas Bibliography File
OK Oil & Gas Field Boundary Revisions	OK Nomenclature Committee, OK Geological Survey	SAS	OK Well History Database, Oil & Gas Production Subsystem Lease Master File, Oil & Gas Production Subsystem Field Master File
Oklahoma Well History Database	OGS & GIS	GIPSY, SAS	OK Well History Database
SAS	University of Oklahoma	SAS	Use state and county boundaries for Oklahoma and other states
Phillips Digital Land Grid	OGS & GIS	SAS	Use section and township boundaries for Oklahoma

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Geological Survey (continued)			
Oil & Gas Production Subsystem	OGS & GIS	COBOL, SAS	Oil & Gas Production Subsystem Lease Master File, Oil & Gas Production Subsystem Field Master File, Oil & Gas Production Subsystem County Master File
State Department of Health			
Aquarius	OSDH/SEL	custom	Aquarius Station File, Aquarius Sample File
BACT	OSDH/SEL	custom	BACT Station File, BACT Sample File
FISH DATA	OSDH/SEL	custom	Fish Data File
STORET	OSDH, DPC, OWRB, OK Conservation Commission	custom	STORET
Management Information Title Three (MITT)	OK State Dept. of Health	DBase III+	Facility
Toxic Release Inventory (TRI)	OSDH, Dept. of Pollution Control	DBase III+	Toxic Chemical Release List

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
State Department of Health (continued)			
National Emissions Data System (NEDS)	Air Quality Service	Symphony	Local Emission Data System
AIRS Compliance Data System	Air Quality Service	AIRS	Computer Data System
AIRS Ambient Air Monitoring Data	Air Quality Service	TRS	Ambient Air Monitoring System
ALL	Consumer Protection Service, OSDH, County Health Departments	DBase III+/COBOL (Mainframe)	100+
Disposal site inventory	Solid Waste Management Service	DBase	CERCLIS
Inspection Inventory	Solid Waste Management Service	DBase	RECRIS
PA/SI Investigations	OSDH	EasyCad, Manuscript	blank
Superfund Investigation	OSDH	EasyCad, Manuscript	blank
Commissioners of the Land Office			
Minerals Management System	CLO	Focus	Focus Databases
Lease Management System	CLO	Focus	Focus Databases
General Ledger	CLO	Mico Step	DB III's

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Department of Mines			
Coal Permit Data	Department of Mines	PFS	Coal Permits
Non-Coal Permit Data	Department of Mines	PFS	Non-Coal Permits
Underground Coal Mines	Department of Mines	PFS	blank
Oklahoma Pollution Control Board			
Waterbody System	PCCB Agencies and EPA	DBase	blank
State Regents of Higher Education			
Unitized Data System	blank	COBOL, OS/VS V. 2.4	Student Enrollment Data
Unit Data Historical File System	blank	COBOL, TSO & JCL	blank
Degrees Conferred	NCES	COBOL, SAS	Completions
Civil Rights System	Office of Civil Rights and NCES	COBOL	blank
Program Budgeting System	blank	COBOL	blank
Mainframe Accounting System	blank	COBOL	blank

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
State Regents of Higher Education (continued)			
Advocate Recruitment	blank	COBOL	blank
Minority Graduate Recruitment	Faculty recruiters in and out of Oklahoma	COBOL	blank
High School Grad Enrollment & Reporting Sys.	OK Legislature & OK Dept. of Education	COBOL, SAS	High School Graduates
Cohort Flow System	OK and national legislators	COBOL	Cohort Flow
Facilities Inventory System	blank	COBOL, SAS	blank
Non-Credit Activity System	blank	SAS	Non-Credit Activity
High School Enrollment Goals Projection	OK Dept. of Education	COBOL	blank
Professional Status Reporting System	blank	COBOL	blank
Oklahoma Tuition Aid Grants Program	blank	CICS DMS, SQL, 4GL	Tuition Aid Grants
Annual Leave System	blank	COBOL, TSO	blank
Voucher Inventory System	blank	TSO, SAS	blank
Academic Scholars	blank	SQL, 4GL	Academic Scholars

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
State Regents of Higher Education (continued)			
Regents Minutes	blank	SQL, 4GL	blank
Capital Projects	blank	SQL, 4GL	blank
Communications Demographic Database	blank	SQL	Communications Demographics
Library Survey	blank	SQL	blank
Oklahoma Tax Commission - Ad Valorem			
DBase III+	Ad Valorem	DBase III+	Distribution, Fire Protection Districts
Oklahoma Department of Transportation			
Datamap	ODOT supplies output to various agencies on request	In-house	Datamap for linework, roadway inventory database for criteria
USGSDRAW	ODOT	In-house	U.S.G.S. Data
Job Piece Visualization	ODOT aids in project tracking	In-house	Roadway inventory base map, Job Piece database

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Department of Tourism and Recreation			
Computer Aided Design & Drafting	OTRD, OPA, Health Department	AutoCAD	blank
Database Management	OTRD, NPS	Paradox 3.0	blank
Landscape Design	OTRD	LandCadd	blank
Spreadsheet	OTRD	blank	blank
Oklahoma Water Resources Board			
OK Water Use Data System	OWRB	Model 204 DBMS	Water Rights, Water Use, Well Data, Temporary Permits, Well Driller's Licensing, Reservoirs
Permit Info. & Compliance System	OWRB	Model 204 DBMS	Industrial Discharge Permits, Discharge Monitoring Reports, Lab Certification
Groundwater Quality	OWRB	PL/I, SAS	Groundwater Quality
Lab Certification	OWRB	BASIC	Lab Certification
Complaints & Spills Database	OWRB	RBase for DOS	Water Quality Spills & Complaints
UST Database	OWRB	RBase for DOS	Underground Storage Tanks

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Water Resources Board (continued)			
Oklahoma Water Atlas	OWRB	ENABLE	Lake/Stream Data
Wellhead Protection	OWRB	BASIC	Input includes aquifer characteristics; creates graph
Yield Study Program	OWRB	BASIC	Input includes precipitation, evaporation, demand, inflows, and creates a data file and graphs area capacity curves
Modflow	OWRB	Fortran 77	Required input includes pumping data, river data, heads, recharge, hydraulic conductivity, grid size, creates output file
RESSQ	OWRB	Fortran, Quickbasic	Input pumping or injection data, aquifer data; creates calculated data file and graphics file
THWELLS	OWRB	Microsoft Quickbasic	Input aquifer and pumping data (well data), and creates data output and graphics files
Loan/Grant Application Tracking	OWRB	RBase for DOS	Loans, Grants

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Water Resources Board (continued)			
IWR Main	OWRB	Fortran, C	Water Demands Projections, Water Systems Surveys, Climate Data, Census Data
WADISO	OWRB	Fortran	blank
Dam Inventory	OWRB, Assn. of Dam Safety Officials, FEMA	Paradox	Dam Inventory
RADAP2	OWRB, Climate Survey	blank	Data can be downloaded
QWKRT2	OWRB	Fortran	Dam Inventory, Adaps, Climate Data, Topographic
NWS Dambrk	OWRB	Fortran	Dam Inventory, Adaps, Climate Data, Topographic
HEC-2	OWRB	blank	Required input: cross section descriptions (from Topo map); plots profile
Various Water Quality Models	OWRB	blank	STORET, Waterbody Tracking System, Present Land Use 1974

TABLE 2-2 (continued)
APPLICATIONS BY AGENCY

Agency/Application	User Agencies	Software	Data Sets Created/Used
Oklahoma Water Resources Board (continued)			
Reservoir Fisheries Habitat Data	ODWC	DesignCad	blank
Fish & Wildlife Pollution Complaints	ODWC, Dept. of Pollution Control, state agencies on pollution control coordinating board	DBase	Database files
Creel Survey Data	ODWC	SAS	ASCII Files
Fish & Wildlife Resources Inventory	ODWC, USFWS, USCOE, USFS, USDA, OWRB	SAS, Lotus 123, DBase	ASCII Files

Graphic and Nongraphic Source Material

Map Inventory

Nearly 150 different maps are being utilized by Oklahoma state agencies. Two charts have been provided in this section to illustrate the maps that are currently used. Table 2-3 is sorted by agency. It indicates the names of agencies that responded to the survey; the name of each map set that the agency routinely uses; whether the map is in either a hard copy format (H), automated format (A) or both (B); whether the agency creates or maintains the map set (indicated by a yes response); and the representative fraction (RF) scale of each map set.

Table 2-4 displays only those map sets which are automated. This information has been limited to provide a clearer indication as to where computerized mapping is currently being used.

When sorting this information by scale, several commonly used maps become apparent:

- Nine agencies use USGS topographic maps at the 1:24,000 scale. It is one of the most commonly used scales of the maps indicated. Several additional maps are plotted at this scale, indicating they are using or could use this series as their base map.

- Four agencies use the ODOT County Highway maps at 1:126,720 scale.

- Four agencies use the SCS Soil Conservation maps at 1:20,000 scale.

- Four agencies use other small-scale (1:500,000 or smaller) specialized maps of state level information, including state highways, hydrologic features, utility locations, and land use.

Automated and Non-automated Databases

Table 2-5, automated databases, lists those data sets which are currently being utilized in a digital environment. The chart indicates the name of the user agency, the name of the data set, the geocode (if any) by which the data is associated with a real world location, and the name of the agency which provides and/or maintains the data. This chart also includes data sets which survey respondents regarded as being both automated and non-automated.

There are 110 automated data sets which have been identified through this survey. Over 80% of them contain a geocode reference. The most common geocode is address, with many data sets being maintained based on legals, and section/township/range identifiers.

Table 2-6 on non-automated databases lists those data sets which are currently being utilized in a manual environment. As before, the chart indicates the name of the user agency; the name of the data set as identified by the agency; the geocode (if any) by which the data is associated with a real world location; and the name of the agency which provides and/or maintains the information.

These data sets represent a significant investment to the state when analyzing the potential for GIS development in Oklahoma. These data resources created and maintained within state agencies exist for reasons specific to the activities that occur within each agency. These activities exist because of mandates, regulations, or directives that have been legislated. The importance of the sources listed in Tables 2-5 and 2-6 is dependent on the number of departments that use them and the relative importance of the activities they support. Section 4 will provide an evaluation of the exchange of data among state agencies and analyze the more important sources for graphic and nongraphic information.

TABLE 2-3
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
Department of Agriculture	County Road Maps		H	1:63360, 1:126720
	State Legal Grid		A	1:100000
	US Census Tiger Files		A	1:100000
	USDA/SCS GRASS		A	Variable
	USGS Topo maps		H	1:24000
OK Department of Commerce	1950,1960,1970 Census Tract OK maps		H	Variable
	1980 Census maps of OK		H	1:63360, Variable
	1980 Census Tract maps for OK		H	1:126720
	1980 Metropolitan map series of OK		H	Variable
	1980 School District maps of OK		H	1:63360, 1:19008
	1990 Census Tract maps for OK	Yes	A	Variable
	1990 Post Census maps of OK		H	1:20000, Variable
	Flood Plan maps		H	1:24000
	General Highway map of OK		H	1:126720
	PreCensus TIGER/Line files for OK		A	Variable
	Various Atlases		H	Variable
	USGS Quads		H	1:24,000; 62,500

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Conservation Commission	Abandoned Mine Land Inventory	Yes	H	1:24000
	Confined Animal Operation in IL Basin	Yes	H	1:24000
	County Soil Surveys	Yes	H	1:20000
	Statewide Watershed Clusters	Yes	H	Variable
	Water Quality Sampling Watersheds	Yes	H	1:100000
OK Corporation Commission	100-Year Flood Prone Areas		H	1:24000
	Base of Treatable Water		H	1:126720
	Electric Utilities Boundaries		H	1:63360
	Gas Pipeline in OK		H	1:250000
	Herndon Maps		H	1:63360
	Hydrologic Atlases		H	1:25000
	Mid-Continent Minerals		H	1:21120
	Petroleum Liquids Pipelines		H	1:506880
	Pipeline Map Natural Gas		H	1:506880
	Railroads		H	Variable
	Soils Maps		H	1:20000

*A = Automated; H = Hard Copy; B = Both automated and hard copy

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Corporation Commission (cont.)	Telephone Exchange Boundaries		H	1:15840
	US Topo for OK		H	1:24000
	Wetland Maps		H	Variable
	Freelance Mapps		A	
OK Geological Survey	Geological maps	Yes	H	Variable
	US Topo for OK		H	Variable
	SAS State & County Boundaries		A	1:24000
	Phillips Digital Land Grid		A	1:24000
OK State Dept. of Health	208 Water Quality Mng't Plan Basin		H	1:1267200
	Census		H	Variable
	Climatic		H	Variable
	County maps	Yes	H	1:120000
	Endangered Species		H	Variable
	Floodplain maps of OK		H	1:24000
	General Highway map		H	1:126720
	Geologic		H	Variable
	Groudwater resources and recharge OK		H	1:506880
	Hydrogeologic		H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK State Dept. of Health (cont.)	Hydrologic Unit Map		H	1:506880
	Maps of cities of Oklahoma		H	Variable
	Maps of OK Lakes		H	Variable
	ODOT General Highway Maps		H	1:126720
	OK Topo sheets		H	1:24000, 1:50000
	Oklahoma 1990 official state road map	Yes	H	1:887040
	Outline map of Oklahoma	Yes	H	1:250000
	PA/SI/Superfund	Yes	B	Variable
	Remote Images/Air Photos		H	Variable
	River Reach File Maps		H	1:633600
	Soils		H	Variable
	Solid Waste Disposal Sites		H	Variable
	State and County Roads		H	Variable
	Topo for State of OK		H	1:250000
	USGS Topographical maps		H	1:24000
	Various Utilities		H	Variable
	Vegetation		H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK State Dept. of Health (cont.)	Wetlands		H	Variable
Commissioners of the Land Office	Aerial Photos		H	Variable
	Easement Plats and Surveys		H	Variable
	Herndon Oil and Gas Prod. maps		H	1:63360
	OK Road map		H	1:887040
	OK USDA-SCS Soil Surveys		H	Variable
	REM Lease Appraisal Plat		H	Variable
	Surface Land Inventory by state		H	1:443520
	Surface Land Ownership, by County	Yes	H	Variable
	USGS Topo maps		H	1:24000, 1:62500
OK Dept. of Mines	Bond Increment/Bond Release maps	Yes	H	1:9600, 1:2400
	Coal Permit maps	Yes	H	1:2400
	Coal resources of OK		H	1:126720

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Dept. of Mines (cont.)	Coal underground maps	Yes	H	1:1200, 1:2400
	Non-coal permit maps	Yes	H	Variable
	Soil survey maps		H	1:20000
	USGS 7.5 minute Quad maps		H	1:24000
OK Pollution Control Board	Water Quality Planning Maps	Yes	A	Variable
State Regents of Higher Education	Distribution of Enrollments		A	Variable
	Population		A	Variable
	Source of OK Enrollments		A	Variable
	U.S. Public/Private Enrollments		A	Variable
OK Tax Comm. - Ad Valorem	County map	Yes	H	Variable
	Fire Protection district		H	Variable
	General Highway maps		H	1:3168000
	School district		H	Variable
	Soil Survey map		H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Tax Comm. - Ad Valorem (cont.)	Utility		H	Variable
	Vo-tech district		H	Variable
OK Department of Transportation	7 1/2 Min. Quadrangles	Yes	H	1:24000
	Accident locations	Yes	H	Variable
	Aerial Mosaics	Yes	H	Variable
	Average Daily traffic map		A	Variable
	City Map		H	Variable
	City Streets	Yes	H	1:31680
	Clearance of structures		A	Variable
	Control Section maps		H	1:126720
	Control Sections	Yes	H	1:31680
	County	Yes	H	1:62500
	County Map Library		A	1:62500
	County maps		H	Variable
	County Maps	Yes	H	1:63360
	County Soils Maps		H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Dept. of Transport. (cont.)	Drainage maps	Yes	H	1:12000
	Engr Classification of Geol. materials		H	1:15840
	Federal-Aid primary System map		H	Variable
	Geologic Atlas		H	1:250000
	Geologic Bulletin		H	1:63360
	Geological Maps of OK		H	Variable
	Highway alignment maps	Yes	B	Variable
	Maintenance Division maps		H	Variable
	Needs study	Yes	A	Variable
	Plot Plans		B	Variable
	Project Plans	Yes	B	1:600, 1:1200, 1:2400
	R/W Plans Project	Yes	B	1:600, 1:1200, 1:2400
	Railroad Maps		H	Variable
	Roadway Inventory Base Map	Yes	A	Variable
	Soil Conservation Service maps		H	1:20000, 1:24000
	State Geologic Map		H	1:500000

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Dept. of Transport. (cont.)	State Highways		H	1:887040
	State maps		H	1:1013760
	Surface Feature Map/Contour map	Yes	A	1:600
	Tiger Files		A	Variable
	Topographic map-Highway corridor	Yes	A	1:600
	Traffic Volume	Yes	H	1:250000
	Traffice Volume map		A	1:1013760
	USGS		H	1:24000, 1:100000
	USGS topo maps		H	1:24000, 1:62500
	Vertical Clearance of Structures		A	1:1013760
OK Dept. of Tourism and Recreation	Sign maps	Yes	A	1:887040
	State Park Master Maps	Yes	A	1:2400
	State Park Orientation maps	Yes	A	Variable.
OK Water Resources Board	Aquifer water Levels	Yes	H	1:24000

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Water Resources Board (cont.)	Aquifer Water Quality	Yes	H	1:24000
	Breach inundation	Yes	H	1:24000
	City		H	Variable
	Drainage Area Data		A	1:250000
	EPA Reach File		A	Variable
	Financial Assistance Program Project		H	Variable
	Floodplain		H	1:24000, 1:9600
	Flood prone area		H	1:24000
	Groundwater Prior Rights	Yes	H	1:63360
	Groundwater Rights	Yes	H	1:63360
	Highway		H	1:126720
	Important Farmlands 1980		H	1:126720
	Industrial Facility Sites	Yes	H	Variable
	Inundated Areas		H	1:24000
	Legislative Districts		H	Variable
	Loans & grants approved & funded	Yes	H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Water Resources Bd. (cont.)	OWRB Branch Office Areas	Yes	H	Variable
	Present Land Use 1974		H	1:126720
	Rural Water Systems	Yes	H	1:126720
	Site plan for dam application	Yes	H	1:24000
	Soil Interpretive 1981		H	1:126720
	Stream System-Stream Water Rights	Yes	H	1:63360
	Topographic		H	1:24000
	Water Atlas	Yes	H	Variable
	Water quality Standards Basin maps	Yes	H	1:500000
	Waterbody Tracking System		B	Variable
	Wetlands		H	1:24000
	1978 OK Stream Evaluation map		H	1:500000
	City Street Maps		H	Variable
	County Highway Maps		H	1:126720
OK Dept. of Wildlife Conservation	FEMA Maps		H	1:24000, 1:62500

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-3 (continued)
MAP SETS BY AGENCY

Agency	Map Set Name	Create/ Maintain	*Automated or Hard Copy	Relative Fractional Scale
OK Dept. of Wildlife Conservation (cont.)	National Wetland Inventory		H	1:24000, 1:62500
	ODWC Reservoir Fisheries Habitat maps	Yes	A	Variable
	Public Hunting Atlas	Yes	H	1:24000, 1:62500
	Public Hunting/Fishing Regulations	Yes	H	Variable
	Soil Survey		H	1:24000
	USGS Hydrologic Unit Map		H	1:500000
	USGS Topographic Maps		H	1:24000, 1:62500
	Water Atlas		H	Variable

*A = Automated; H = Hard Copy; B = Both automated and hard copy

TABLE 2-4
AUTOMATED MAP SETS BY AGENCY

Agency	Map Set Name	Relative Fractional Scale	Automated*	Create/ Maintain
Department of Agriculture	State Legal Grid	1:100000	A	
	US Census Tiger Files	1:100000	A	
	USDA/SCS GRASS	Variable	A	
Department of Commerce	1990 Census Tract maps for OK	Variable (1:100K Accuracy)	B	Yes
	TIGER/Line files for OK	Variable (1:100K Accuracy)	B	
Department of Health	PA/SI/ Superfund	Variable	B	Yes
Pollution Control Board	Water Quality Planning Maps	Variable	A	Yes
Regents of Higher Education	Distribution of Enrollments	Variable	A	
	Population	Variable	A	
	Source for OK Enrollments	Variable	A	
	U.S. Public/Private Enrollments	Variable	A	

*A = Automated; B = Both automated and hard copy.

TABLE 2-4 (continued)
AUTOMATED MAP SETS BY AGENCY

Agency	Map Set Name	Relative Fractional Scale	Automated*	Create/ Maintain
Department of Transportation	Average Daily traffic map	Variable	A	
	Clearance of structures	Variable	A	
	County Map Library	1:62500	A	
	Highway alignment maps	Variable	B	Yes
	Needs study	Variable	A	Yes
	Plot Plans	Variable	B	
	Project Plans	1:600, 1:1200, 1:2400	B	Yes
	R/W Plans Project	1:600, 1:1200, 1:2400	B	Yes
	Roadway Inventory Base map	Variable	A	Yes
	Surface Feature Map/Contour map	1:600	A	Yes
	Tiger Files	Variable	A	
	Topographic map-Highway corridor	1:600	A	Yes
	Traffice Volume map	1:1013760	A	
	Vertical Clearance of Structures	1:1013760	A	

*A = Automated; B = Both automated and hard copy.