MINUTES

REDISTRICTING ADVISORY GROUP

August 4, 1999
Room 526-S—Statehouse

Members Present

Senator Janice Hardenburger, Chairperson
Senator Pat Ranson
Representative John Ballou
Representative Troy Findley

Members Absent

Representative Michael O'Neal, Vice Chairperson
Senator Anthony Hensley

Staff Present

Mary Galligan, Kansas Legislative Research Department
Robert Chapman, Kansas Legislative Research Department
Mary Torrence, Revisor of Statutes Office
Mary Shaw, Committee Secretary

Others Present

See attached list.

The meeting was called to order by Chairperson Janice Hardenburger at 10:05 a.m., in Room 526-S of the Statehouse.

Chairperson Hardenburger introduced Mary Galligan, Kansas Legislative Research Department, who outlined the Committee's work for this meeting. She referred the Committee to the information that was mailed prior to the meeting (Attachment 1). Ms. Galligan explained that the information is a summary of the considerations in preparing for redistricting. She said that the Committee had some decisions to make in order to forward timely recommendations to the Legislative Coordinating Council (LCC) about how to proceed with redistricting. The first decision was in regard to the political database that will be used during redistricting.

Ms. Galligan explained that the recommendation of the Committee last year was to have political data available during redistricting. In 1992, the Legislature had available results of two

general elections, 1988 and 1990. The Research Department was directed a decade ago to maintain that database throughout this decade and the Department has done so. As a result, the Legislature can choose from more election and voter registration to include for redistricting in 2002.

Ms. Galligan explained that the next decision is whether the Committee wants to contract for the preparation of the political database. She mentioned that the next decision, if the Committee decides to contract, would be whether you want to issue an RFP and go through a formal selection process or choose a sole-source vendor. She mentioned that the Committee might want to consider a cooperative effort with the Secretary of State who is statutorily charged with preparing the population database for legislative redistricting. She noted that the advantage of cooperation would be efficiency by avoiding ending up with incompatible databases at the crunch time just before committees need to start drawing districts.

Ms. Galligan explained that the third decision is how to select the software for redistricting. The decision is how to select the vendor from whom you will purchase that software.

Chairperson Hardenburger opened the meeting to Committee discussion regarding what the Committee wants in the political database, the parameters of the program, and how many years to include. She mentioned that from a technical standpoint it is easier to incorporate data from elections closer in time to the Census because the precincts will be similar to those included in the Census results. Questions and discussion followed. *A motion was made by Representative Ballou, and seconded by Senator Ranson, to use the election results and voter registration for the years 1998 and 2000 from the President down to Statehouse races.* Motion carried.

Chairperson Hardenburger asked Mary Galligan to explain the level of detail of political data that will be in the redistricting database. Ms. Galligan referred to the information that was sent to the Committee prior to the meeting (see Attachment 1) and explained how registration and vote results are disaggregated and reaggregated to enable analysis despite election geography changes from one election to the next. Questions and discussion followed. *A motion was made by Senator Ranson, and seconded by Representative Findley to include in the RFP the disaggregation of political data.* Motion carried.

Chairperson Hardenburger asked Ms. Galligan to continue her briefing regarding developing a database. She explained that the adjusted figures that will be used for legislative redistricting will be provided by the Secretary of State's office. During discussions with Brad Bryant of the Secretary of State's Office, the possibility of coordinating database development had arisen. The Secretary of State's office will create the adjusted population data, as the Constitution requires and provide it to the Legislature in July 2002 in accordance with statute. All the other elements of the redistricting database will be put together in the Spring of 2001. She indicated that there will be very limited time in which to consolidate all the data in preparation for plan drawing. Ms. Galligan mentioned that she and Mr. Bryant concluded that it might be beneficial for the LCC and the Secretary of State to coordinate the selection of a vendor to assist with development of the legislative population database as long as the LCC will be contracting for other redistricting services. That could be accomplished either by issuing a joint RFP, or by coordinating the negotiation of the contract. The goal would be to end up with a single database development vendor to avoid conflicts at the last minute and be unable to start drawing plans in the late summer or early fall of 2001. Ms. Galligan noted that Mr. Bryant was present and was willing to stand for questions.

Chairperson Hardenburger recognized Mr. Bryant, who indicated that the Secretary of State's Office had been in close contact with Ms. Galligan and the Legislative Research Department regarding preparations for the 2000 Census. He mentioned that the Secretary of State's Office will perform the adjustment of the federal census figures, which could be automated. He noted that

automating the process would be a change from 1991. He cited as an advantage of automation the possibility of getting better detailed address information with which to assign students and military personnel to census blocks. He felt there would still be some problem addresses that could not be assigned by a computer program. He explained that the Secretary of State's office would like to pursue a contract with a vendor to automate the process instead of doing it manually as they did in 1990.

The Committee discussed consideration of the Secretary of State's time frame being a bit more immediate. Ms. Galligan, in response to questions, explained that the Legislature is not bound to conduct procurement any particular way under Kansas law. She also explained that the recommendation that the Legislative Research Department has made in the past regarding redistricting related procurement is to conduct that process as openly as possible, because redistricting is a very visible undertaking and tends to be highly contentious. An RFP process takes more time, but is probably less prone to criticism. *A motion was made by Representative Findley, and seconded by Representative Ballou, to coordinate seeking the database development with the Secretary of State's Office.* Motion carried.

Mr. Bryant mentioned that they did some programming in-house last time and that this would be a bigger RFP. Mr. Bryant indicated that their office sees this as two smaller RFPs tied together into one. He stated that the Secretary of State's Office would pay for the portion of the contract attributable to the adjustment and that an appropriation for that effort would be a request to the Legislature anyway. *A motion was made by Senator Ranson, and seconded by Representative Ballou, that the Legislature pursue development of a comprehensive RFP in coordination with the Secretary of State's office.* Motion carried.

Chairperson Hardenburger asked Ms. Galligan to continue her briefing regarding software. Ms. Galligan referred to the information that was sent to the Committee members prior to the meeting (see Attachment 1, beginning with page 4). She mentioned that this information is the result of a Request for Information (RFI) sent to vendors who had made presentations at national meetings and to Kansas' universities and others who might be interested in providing support services for redistricting. She noted that a complete list of persons to whom the RFI was sent was included at the back of the information package.

Ms. Galligan noted that no one in Kansas responded to the RFI. She summarized the responses by saying that from the information provided by those vendors who did respond, she concluded that the Legislature could obtain the kind of support needed for redistricting. She noted that during the last redistricting the counterpart of the Advisory Group thought that two things were important. One was user friendliness of the software. The other was consulting, *i.e.*, sufficient depth and experience with redistricting and sufficient expertise on the vendor's staff to provide the assistance required throughout the process. Ms. Galligan mentioned that the consideration during the last redistricting was whether the vendor could, or would provide, expert witness services if the redistricting plans was challenged in court. Questions and discussion followed.

Ms. Galligan explained that the direction the Advisory Group set last summer in1998 was to plan to have six workstations in the Statehouse for redistricting. That is similar to the arrangement used in 1992. Those workstations were distributed for one per caucus and two workstations in the Research Department to support the committees generally and to assist any members who did not want to utilize the caucus work areas.

Chairperson Hardenburger asked Ms. Galligan to continue with her briefing regarding the time line (Attachment 2). Ms. Galligan explained that the Committee's recommendations regarding issuance of an RFP will go to the LCC. Ms. Galligan explained that the next meeting of the LCC is

September 8. She proposed getting the Advisory Group's recommendations to the LCC at that meeting. She said she hoped to have the RFP ready to be issued very soon after that meeting. She explained that in this scenario the Committee would be reviewing proposals by mid-October. She suggested that one of the requirements for the redistricting software selection include a demonstration of the software here in the Statehouse using a Kansas database on equipment that will actually be used during redistricting. Ms. Galligan also explained that the Committee would be able to make selection decisions by November with negotiation and finalizing a contract just before the start of the 2000 Session. She indicated that scenario would make a specific budget figure available in time for the appropriations process.

Questions and discussion followed. In response to questions, Ms. Galligan explained that the list of vendors to receive the RFP will be those that responded to the RFI and others who request a copy of the RFP. *A motion was made by Senator Ranson, and seconded by Representative Ballou, to present to the Legislative Coordinating Council the Secretary of State's request for adjustment of the federal census data, the Legislature's purposes for the redistricting itself and the software to be written so it is severable and then vendors can bid for separate pieces.* Motion carried. Mr. Bryant and Ms. Galligan indicated that they will work together so that the RFP can be prepared by the September 8 LCC meeting and that the RFP will be a priority.

Senator Hardenburger asked Ms. Galligan to continue her briefing regarding the process of vendor selection. Discussion followed. The Committee came to a consensus that the six members of the Redistricting Advisory Group would make the decision regarding vendor selection along with Mr. Bryant or a designee of the Secretary of State's office. It was mentioned that the leadership offices would have to decide how much assistance they would provide during redistricting and input regarding assistance with proposals review.

Chairperson Hardenburger mentioned that at the NCSL convention she reported that nothing has changed, but that the Census Bureau probably will be facing legal challenges from here on out, they were a dynamic presence and they were seen at NCSL.

The Committee adjourned at 11:53 a.m.

Prepared by Mary Shaw
Edited by Robert Chapman and Mary Galligan

Approved by Committee on:

December 9, 1999
(date)

REDISTRICTING ADVISORY GROUP
GUEST LIST
DATE August 4, 1999

NAME	REPRESENTING
Tanja Thomas	Senate Minority Office
Rob Mealy	Sen. Ewing's office
Tina Brown	Edita, Talk! Magazine
Brad Bryant	Sec. of State's office
Cynthia Smith	KCPL

KANSAS LEGISLATIVE RESEARCH DEPARTMENT
Rm. 545N–Statehouse, 300 SW 10th Ave.
Topeka, Kansas 66612-1504
(785) 296-3181 ◆ FAX (785) 296-3824
kslegres@klrd.state.ks.us
http://skyways.lib.ks.us/ksleg/KLRD/klrd.html

July 12, 1999

2002 REDISTRICTING PREPARATION

Special Committee on
Redistricting Advisory Group
8-4-99
Attachment 1

COMPUTER SUPPORT FOR REDISTRICTING

Background

The Kansas Constitution requires redrawing of legislative and State Board of Education districts every ten years. The U.S. Constitution requires redrawing of Congressional districts based on the results of the U.S. Census (every ten years). The current districts were drawn by the 1992 Legislature. New districts must be drawn during the 2002 Session.

Legislative and Congressional districts must be drawn on the principle of equal population. Congressional districts must be as close as possible to equal in population. Generally, legislative district plans may deviate from strict equality by no more than 10 percent overall (+ or -5 percent).

In addition to being essentially equal in population, districts must be compact, contiguous, and each and every piece of territory in the state must be included in a district.

During the last two rounds of legislative redistricting (1989 and 1992) in Kansas, legislative committees charged with developing plans for new districts have relied upon computers to perform the calculations and generate hard-copy maps and statistical reports for review. Computer support allows the Legislature to review a large number of options for district plans; to rapidly test plans for compactness, contiguity, and completeness; and to produce hard-copy maps and reports for circulation among members and committees.

Software and hardware used for the last round of redistricting is now nearly ten years old. While the computers (VAX VMS server and workstations) are operable, they are obsolete and the operating system is not Y2K compliant. Some of the peripherals used to generate hard-copy maps and reports have either been replaced or the need for them has been eliminated. The software used in 1992 is no longer supported by its developer.

Options for Addressing the Issue

At the highest decision level, the Legislature may choose among the following options for meeting its software and staffing needs for redistricting. Based on direction given to staff by the Redistricting Advisory Group (Committee) during the 1998 interim, all of these options would provide at least the same level of functional support (including the option for members themselves to use the software) that was available for the 1992 round of redistricting[1]. The advantages and disadvantages listed below are not intended to present an exhaustive discussion of each option, but are intended to provide a basis for discussion.

Option	Advantages	Disadvantages
Develop computer support (software) in-house by building user interfaces and functionality on an existing desktop GIS application, *e.g.*, ArcView®, MapInfo®, *etc.*	Could provide the Legislature with maximum flexibility regarding design and functionality. Depending on staffing costs, could be a relatively inexpensive option.	Would require additional technical staff, as well as support staff. Staff with necessary skills may not be readily available in this area. Could be very difficult to temporarily hire necessary technical staff. Would entail the greatest risk of not being done on time (initial in-house development should have begun by now).
2. Purchase "off the shelf" redistricting software and make in-house adjustments to the programming to functionality to make it work in Kansas.	Potentially, least "up front" work. Could be a relatively inexpensive software solution depending on the cost of the redistricting software.	Least flexible option in terms of functionality available for redistricting. Limited number of products available. Would require additional technical staff, as well as support staff. Staff with necessary skills may not be readily available in this area. Could be very difficult to temporarily hire necessary technical staff. Potential for high level of user dissatisfaction with finished product.
3. Contract with third party for development of software to specifically meet Kansas' needs. Implement with legislative staff.	Very similar to the approach taken in 1992. No "in house" development. Technical demands on permanent staff are minimized. As compared to option 2, gives Legislature a chance to negotiate for exactly the functions it wants.	Potentially expensive. Technical staff expertise would leave with the contractor at the end of the 2002 Session. Requires sophisticated contract oversight. Will require adding legislative support staff.
4. Contract with third party for total support of the redistricting effort, including software, and technical and support staff.	No legislative staffing decisions. No "residual" staff at the end of the process. Would give the Legislature a means of looking at the totality of the project during negotiation.	Potentially the most expensive option. Expertise developed during the process would go away upon expiration of contract. Potentially long contract negotiation period. Depending on the terms of the contract, may limit Legislature's ability to make changes to project functionality and staffing "on the fly." Sophisticated contract oversight required.

Hardware and Software

The basis for discussion of necessary hardware and software for redistricting is the Committee's direction to staff during the 1998 interim to implement computer support for redistricting that is as user friendly as possible, and at least functionally equivalent to that available in 1992. The other aspect of the 1992 computer support that will remain the same is the number of workstations, *i.e.*, one for each caucus and two in the Research Department. Since implementation of the first phase of the Legislature's strategic information technology plan is underway, some decisions regarding hardware have effectively been made. Thus, the Legislature will want to use software that can run on desktop computers currently used by the full-time staff. Additional storage capacity for data may be required, but at this time the Census Bureau has not provided file size estimates necessary for that decision. Additional peripheral devices may be necessary to produce color maps and reports in the formats most commonly requested.

The Research Department issued a request for information during the 1999 Legislative Session as a means of identifying entities that might be interested in providing services in support of the Legislature's 2002 redistricting effort. In addition to asking about services that might be provided to assist with the Legislature's redistricting task, the RFI stated that anyone who wished to be considered a potential vendor should respond. The RFI was sent to the Regents' universities in Kansas and Washburn University, the state Geographic Information Systems (GIS) Policy Board, and all vendors who have made presentations at recent National Conference of State Legislatures Redistricting Task Force meetings [2]. None of the Kansas entities responded to the RFI. Five national vendors responded. The table below summarizes the information provided by each.

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Type of software developed or planned	Single application of a full GIS	Single application of a full GIS	Designed specifically for and limited to Phase 2 and redistricting	• Software limited to redistricting application and Phase 2 support, and software that is a single application of a full GIS	Same
Release date for fully tested version	2/20/99	Released as of 3/22/99	As of 3/1/99 Autobound® in version 3.0	Remap 2000 redistricting software: Fall 1999	December 1999
GIS Platform	Maptitude®	Uses ArcView® shape files, but is not limited to ESRI products.	ArcView®	ArcView®; and other ESRI products	Intergraph GeoMedia®
Stand Alone/Client Server	Both	Stand alone	Both	Both	Both
Optimal operation by legislator/nontechnical staff (2-4 hours training)	Yes ("Legislator version")	Yes	Viewer software requires minimal training	Yes (basic application)	Yes
Trained staff interface (4-8 hours training)	Yes (full version)		Yes	Yes (advanced features)	
Fully trained staff interface (>8 hours training)	Yes (for all features of Maptitude®)				
User load of TIGER®	TIGER® translator included. Also sell statewide data CD.	NA	Uses wizard		Yes
Vendor creation of redistricting database required	No	NA	Option	Yes (moving toward user-loading capabilities).	No (will create if required)

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Permits user to add elements to database	Yes	Yes	Yes	Yes	Yes
Requires vendor to make any changes to database elements	No		Option		No
Data format	Maptitude databases in proprietary format. Attribute data in nearly any format.	.shp and .mdb	.shp, PL data in dbaseIV, exportable to Access, Oracle, Informix, *etc.*	.shp (maps), .dbf (data files) for larger states, possibly Oracle or SQL-server files accessed through SDE	GeoMedia® native format is MS Access. Are investigating MS-SQL Server and Oracle to enhance performance.
Basis of licensing	Per-seat with quantity discount	Per seat	Per seat or site. Site licenses individually negotiated.	Either. Limitations on site license negotiable.	Either. Will work with client to determine best option.
If site license, can other governmental entities use?	NA	NA	Yes	Yes. Negotiable as term of license	No
Limited to supporting redistricting	No	NA	No	No. Negotiable as term of license	NA
License limit on public records releases	No	No	Code cannot be released to unlicenced users. All reports, maps, and file formats (internal or external) can be released.	GIS software and redistricting application are covered by copyright laws and are, thus, protected from release under public record laws. Compiled, integrated databases were protected by trademark from release in a 1991 Iowa court case *Ralph Brown v. Iowa Legislative Services Bureau*.	No

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Optimum Hardware configuration	Pentium 233 64MB RAM (NT) 1GB hard drive	Std. Desktop PC	300 MHz Pentium II 128 MB RAM 4Gb SCSI disk 4Mb SVGA 17" monitor Backup: 2Gb Iomega Jazz drive, or HP CD writer HP 2500 plotter 10 Mb Ethernet network DEC can provide fully configured system with software and PL data installed.	Pentium 200 MHz 64 Mb RAM 4Gb hard drive >+21" VGA color monitor and 4MB video memory for screen resolution of at least 1024x768 pixels (software is being designed to utilize dual monitor capabilities of Win98) Laser printer HP DeskJet 690C color printer Backup tape unit Remote Access software (LapLink®) and modem UPS	Pentium 333 MHz 128 MB memory 8GB hard drive 8MBXVGZ or SVGA A statewide database will be approximately 2 GB Tape of disk backup device with suitable software, such as WinZip
Operating System	Win 95/98/NT	Win 95/98/NT	Win 95/98/NT	Win 95/98/NT	Win 95/98/NT or future MS Win OS. Software is MS Office 97 compatible.
Web publishing capability	Maps in JPEG Reports in HTML OLE automation server	Third party products such as Internet Map Server	Maps can be saved as HTML documents with .JPG graphic references. Reports saved as formatted tables in HTML. Reports can include charts and other graphics.	ArcView® can create JPEG and TIFF images of maps and tabular reports for a web server. They are exploring the use of ESRI's Internet Map Server to allow redistricting plans to be viewed on the Web.	GeoMedia® Web Map—Windows based technology enables combination and distribution of GIS information from multiple sources over Intranet or Internet through "smartmaps."
Training (vendor provided)	All levels if requested	All levels	All levels	All levels	All levels
Means of providing training	Manuals, tutorials, two days of classroom on Maptitude® and one day on redistricting function suggested for technical staff.	Easy to use without special training. Will provide training if requested.	On-line tutorials for all levels. On-site training is recommended for computer services staff and high level end users. On-line tutorials include the training material used by DEC training staff so future in-house training is possible.	On-line tutorials and other self-guided training for low-skill end users. On-site classroom training for high-level end users/computer services staff. On-site EDS staff available for redistricting as an option.	On-line help and classroom training for all levels. Custom training as required. Focus training-special areas, *etc.*, web map, Imagineer (plotting interface), customizing reports, understanding queries.

L-1

L-1

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Technical support for:					
1. Software installation and operation	Caliper® has staff devoted to working with installation and operation problems. Software comes with professional, menu-driven installation program.	Telephone/online support	On-site, telephone, or Internet support. Latter can be interactive with DEC technician logged on with staff.	On-site installation and training; technical support by e-mail, telephone, and remote access software (e.g., LapLink®)	Installation and operating instructions, on-site install if required. 8x5 phone support for technical staff (24x7 during installation and redistricting period).
2. Database Development	Software comes with national datasets, TIGER® converters and can import other geographic and data formats.	Done outside redistricting application.	On-site and off-site support is available. DEC has >12 years data development experience.	All skills of EDS, Inc. staff from 20 years of involvement in redistricting is available to assist with database development.	Instruction documented, 8x5 phone support (24x7 during redistricting period), on-site support if required.
3. On-site assistance during redistricting	Can be provided, but do not anticipate it being necessary after the three-day training.	Very unlikely to be needed.	DEC can provide: Sr. Systems Analyst, Sr. Programmer, Redistricting Analyst, Data Conversion Analyst	Available	24x7 phone support during redistricting period. On-site support if required.
On-site staffing available during:					
1. Database creation	Yes	NA	Yes	Yes	Yes
2. The entire redistricting process	Not necessary. Three days of training should enable staff to do the job.	NA	Yes	Yes	Yes
3. Other			Short- or long-term hourly, task-specific contract		Yes. Typically recommend 8x5 phone support with 24x7 during redistricting. If problems cannot be resolved and on-site support is negotiated, it will be provided as required.

8-1

8-1

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Consulting support:					
• **Prior to redistricting (network design, database, hardware selection, statistical analysis, *etc.*)**	Yes, via phone, e-mail and site visits. Maptitude® includes several measures of compactness. Could assist with interpretation of those measures and design of additional measures and assist with other statistical analyses.	NA	• Network support: design, installation, and training • System support: server setup, enduser support • Internet configuration: server configuration, network connectivity, and firewall design • Database design for Oracle and/or Microsoft Access and SQLServer.	• Strategic assistance with implementing the redistricting process • Database construction • Statistical analysis of census demographic and population trends and their impact on redistricting • Analysis of racial bloc voting • Assistance with hardware selection • Redistricting planning document	Site analysis to determine most efficient network, database, and hardware structure. Recommendations, consultation, and support to maximize performance of redistricting system, including output (printed reports, bill content, and maps).
• **During redistricting**	Technical support only. No political consulting.	NA	All of the above, plus systems operation and help desk support	• On-site technical support • Statistical analysis • Strategic advice on plan drafting • District "compactness" studies • Custom software development or special needs • Project management assistance	Technical and end user training designed for small groups or individuals. Assistance customizing reports, plots, templates, *etc.* 24x7 phone support. Quick guide sheets for plan building, reports, plotting, reference list of cities, and codes. Focus Training on special issues such as "legend to create great plots," "thematic," "the power of queries," *etc.*
• **After redistricting**	No expert witness services or political consulting.	NA	Technical support only as long as necessary. No expert witness or litigation support.	• Expert witness testimony for redistricting and voting rights cases • Assistance with submissions to the U.S. Department of Justice for "pre-clearance" under Section 5 of the Voting Rights Act • Use of GIS for other legislative purposes	Expert witness regarding software, data, data structure, consultation, and recommendations as needed for expert legal services. Post redistricting implications—STF 1 and 3, other data sources, public access via web, *etc.*

	Caliper® Corp.	Corona Solutions	Digital Engineering	Election Data Services	Public Systems Associates
Redistricting Experience	Software used in PA and by cities, counties, and public interest groups.	NA	Four states have purchased Autobound for Phase 2 and/or redistricting. DEC has been developing and supporting redistricting products for more than six years.	Over 20 years redistricting experience, having provided software, databases, strategic advice, and litigation support for some 15 state governments and an equal number of local governments since 1977. States that contracted for redistricting software or databases in 1990: • Colorado Legislative Council • Connecticut General Assembly • Florida House • Illinois Speaker and President • Iowa Legislative Service Bureau • Massachusetts Redistricting committees • Michigan • Rhode Island Redistricting Commission • Virginia	Since 1976, PSA has provided custom redistricting applications and support to ten states and numerous local governing bodies. PSA has provided a full range of services to support all redistricting-related projects: Phases 1 and 2 of the BBSP, updating precinct boundaries, incorporation of BAS results, and plan type creation and plan building on statewide data access all levels of geography.
Current Redistricting Clients	Minnesota, Georgia, Tennessee, Alaska, South Carolina, and Florida all have purchased software [no indication of use]	NA	NA	All current clients are for phase 2	Current clients for redistricting: Louisiana, West Virginia, Alabama, Oklahoma, and Pennsylvania

01-9

01-10

Options for Hardware and Software Procurement

The Committee needs to decide whether to recommend that the Legislative Coordinating Council issue an RFP for the hardware and software and related support necessary for redistricting, or negotiate a sole source contract. PSA, of Baton Rouge, Louisiana provided the software, hardware, and support for the 1992 redistricting effort. As the response to the RFI indicates, PSA remains in the redistricting support business and is interested in working with the Kansas Legislature. Several other vendors, as indicated on the table above, have either entered or continued to work in this field. All the vendors that responded to the RFI are developing redistricting software that will operate on the desktop computers currently in use by legislative leadership and the Research Department. Based on the responses to the RFI, the major differences between vendors appears to be the type and extent of support available. The RFI did not seek to ascertain functional differences between the redistricting products.

Whether the Committee chooses to recommend issuing an RFP or negotiating a sole source contract, it may want to begin the process during the 1999 interim in order to allow sufficient time for development of all the functions it will require and to ensure that the vendor has adequate time to analyze the Legislature's network, recommend any changes required for redistricting, and enable those changes to be made. The time line for this project developed during the 1999 Session envisioned issuing an RFP (or beginning negotiation of a sole source contract) just prior to the start of the 2000 Session. That element of the time line should be moved up.

Database Development and Support

Database development and support are the keys to a successful redistricting effort and post-redistricting litigation. Indeed, redistricting is a large database management project that happens to be very sensitive politically. Therefore, data integrity and security are of upmost importance.

Data for redistricting consist of population and associated geographic identifiers provided by the U.S. Census Bureau; recalculated population totals for each geographic unit as required by the Kansas Constitution; voter registration, and selected election results provided by the Secretary of State's office; and any other data the Legislature chooses to use in its analysis of proposed districts.

The Committee's recommendation during the 1998 interim was to include in the redistricting database only population, geography, voter registration, and selected election results (from the top of the ballot down to and including Kansas House of Representatives). Currently, the Legislature has available election results and voter registration for 1988 through 1996 with the corresponding election geography. The Research Department has not yet received from the Secretary of State precinct geography used in the 1998 election.

Population and Base Geography

The geographic database for redistricting will be the U.S. Bureau of the Census TIGER® files. Those files will include all levels of tabulation geography used by the Bureau for the 2000 census. Among the levels of geography will be Kansas election precincts as provided by the Secretary of State's office during Phase 2 of the Bureau's Redistricting Data Program. Under Kansas law, election precincts use as boundaries visible ground features recognized by the Census Bureau. As a result of that law and the

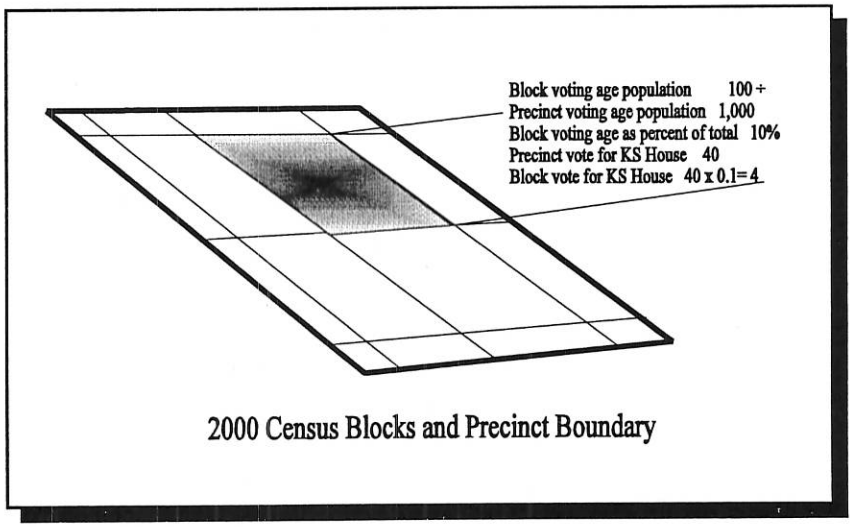
state's participation in the Redistricting Data Program, the Bureau is able to provide precinct-level population tabulations that can be used for redistricting.

Once the population and TIGER® files are received from the Census Bureau, the Secretary of State will perform recalculations required by the Kansas Constitution to develop the totals that will be used for legislative redistricting. The Legislature will not use the recalculated population figures for congressional redistricting. Thus, the total population database for redistricting will require significant storage capacity because two complete sets of population data will be involved.

Political Data

Preparation of political databases involves associating voter registration and election results from each election with the appropriate precinct geography for the election so those data are mapable. For any single election, the task is not technically difficult as long as election results and voter registration information are accurately identified with an election precinct. In the past, considerable time has been devoted to reconciling registration and election results with precinct maps. Examples of anomalies include registration lists that do not include the same precincts as election abstracts for the same election cycle, maps that do not show all the precincts listed in registration records or election precincts, and non-contiguous precinct parts that appear on maps but for which there are no reported registrations or election results.

In addition to reconciliations required to ensure the accuracy of data for each election cycle, the political data must be manipulated to make them useable across election cycles. Precinct geography and names do not necessarily remain the same from one election to another. Thus, the only way to obtain understandable historical political data at the precinct level is to disaggregated data to the lowest level of geography, the census block, then re-aggregate those block data up to the precinct level. The example in the graphic at the right illustrates that process. The result is a reasonable estimate of the registration and election statistics for current precincts over time. Over the course of the last decade, the Research Department has developed a database consisting of election results and voter registration totals and corresponding electronic precinct "maps" for each election from 1988 through 1996.



2000 Census Blocks and Precinct Boundary

However, disaggregation does not provide precise registration and voter information for a variety of reasons, the most obvious of which is the unrecorded change in census block population throughout the decade. Thus, the disaggregation results for political data for the 1994 and 1996 elections would be statistically less reliable than those for the elections closer in time to the Census. For that reason the Research Department did not disaggregate registration and election results for those two elections.

Options for Developing the Political Database

In preparation for redistricting, the Committee needs to decide whether it wants the redistricting database to include election results and voter registration for all elections from 1988 through 2000 or for selected years only. The table below displays various decisions the Committee might make on this matter and some implications of each.

Decision	Implications
Include all voter registration and selected election results from all elections 1988-2000 in the redistricting database at the census block level.	1. Members will have the maximum amount of historical political data available for analysis of proposed new districts. 2. All political data could be analyzed on the basis of the precincts used for 2002 redistricting. 3. Data for the middle years of the decade, the 1994 and 1996 elections, will be the least precise. 4. This option would require maximum data storage and manipulation capacity of all the options.
Use election results and voter registration data from the 1998 and 2000 election cycles only.	1. Members would be able to easily compare the two election cycles for which disaggregated data would be most precise. 2. Only one of those election cycles, 1998, would include elections of the statewide officers and President. 3. Only the 2000 election cycle would include results of both House and Senate elections. 4. Would require less data manipulation and storage space than option 1. 5. Would parallel the data available for the 1992 redistricting in which only 1988 and 1990 political data were included in the redistricting database. 6. Would provide a full range of relatively recent elections to analyze – from President to Kansas House.
Use data from the 1988, 1990, 1998, and 2000 cycles only.	1. Would allow members to analyze change across the decade for comparable elections. 2. Would eliminate from the analysis those election cycles for which the disaggregation-reaggregation methodology yields the least precise results. 3. Would require intermediate amount of data manipulation and storage.
Use data from the 2000 election cycle only.	1. Most precise results from the disaggregation-reaggregation process. 2. No statewide races to analyze. 3. Would require least data manipulation and storage.

Develop an indicator or index number from a combination of election cycles.	1. Might be able to minimize the anomalies created by artificial growth in voter registration rolls and advance voting. 2. The limitations on the accuracy of the data may be more easily understood by members by virtue of the appellation "index" or "indicator." 3. Would require significant manipulation and research to identify the most useful data to include in computation of the index. 4. Would minimize the storage space for political data since each block would be assigned a single index number.

Alternatively, the Committee could choose to include in the database information from selected election cycles only for precincts *i.e.*, not disaggregate data to the block level. This approach would eliminate the accuracy concerns endemic to the disaggregation-reaggregation procedure but may not be acceptably functional. If the Committee chooses this option, during redistricting, members would be able to choose data from a specific election cycle to "overlay" on the proposed district map. This option would give members a visual sense of, for instance, percent of voters registered to one of the parties in a particular precinct as that precinct was configured for the chosen election, but would not provide a means of recalculating those data for the proposed new district.

In summary, the Committee needs to decide:

1. Which election cycle's data are most important to include for redistricting analysis purposes (the year or years)?

2. Which data for those years, *i.e.*, election results, voter registration, or both, and if elections, which ones?

3. Whether it wants the chosen data available at the block level, and thus open to historical analysis, or only at the precinct level.

The Committee also needs to decide whether political database development should be done by staff or by a third party. The optimum decision on that matter will be a function of the amount and format of political data the Committee wants to use for redistricting.

The Next Steps

During the 1999 interim the Committee needs to make the decisions outlined above. That is:

1. Should redistricting support be contracted, done by Legislative staff, or some combination?

2. Should software and support be sought using an RFP or a sole source negotiation process?

3. How much political data and in what format should those data be included in the redistricting database?

4. Should political database development be done by staff or by a third party?

#28797.01(7/14/99{10:27AM})

Notes

1. Hardware and software used to provide computer support in **1992** consisted of:

Hardware	VAX/VMS server and six VAX workstations
Software	"Plan90" proprietary software developed by Public Systems Associates (PSA), Inc. of Baton Rouge, Louisiana.
Printers (one per workstation)	HP LaserJet III (reports and letter and legal size black and white maps)
Color Plotters (shared devices)	Precision Image electrostatic plotter (letter through E size 44x36) HP 7550A Pen plotter (letter through 11x17)
Tape drives	9 Track streaming tape drive TK50 tape cartridge drive
Network	Dedicated fiber optic network - VAX/VMS network software

2. RFI recipients:

Sammamish Data Systems, Inc.
P.O. Box 70382
Bellevue, Washington 98007

Legislative Demographic Services
Allan Sutherlin
4954 East 56th Street, Suite 10
P.O. Box 20897
Indianapolis, Indiana 46220

Corona Solutions
Dale Harris
9025 Grant Street, Suite 204
Thornton, Colorado 80229

Howard J. Simkowitz
Caliper Corp.
1172 Beacon Street
Newton, Massachusetts 02161

Phil Kelly, Chair
Division of Social Sciences
Emporia State University
1200 Commercial Street
Emporia, Kansas 66801-5087

Paul Cromwell, Director
Hugo Wall School of Urban and Public Affairs
Wichita State University
1845 N. Fairmount—Campus Box 135
Wichita, Kansas 67260-0135

Chris Hamilton, Chair
Washburn University, Political Science Department
Henderson Learning Center, Room 225
Topeka, Kansas 66621

Robert W. McColl, Department Chair
413B and 215 Lindley Hall
University of Kansas
Lawrence, Kansas 66045

Ronald A. Francisco, Chair
Department of Political Science
Blake Hall, University of Kansas
Lawrence, Kansas 66045

Charles W. Martin, Interim Department Head
Department of Geography
201 Dickens Hall, Kansas State University
Manhattan, Kansas 66506-0801

Department Chair
Department of Political Science
Kansas State University
Manhattan, Kansas 66506

Kim Brace
Election Data Services
1401 K Street NW, Suite 500
Washington, D.C. 20005

Larry Leftoff
Public Systems Associates, Inc.
770 North Street
Baton Rouge, Louisiana 70802

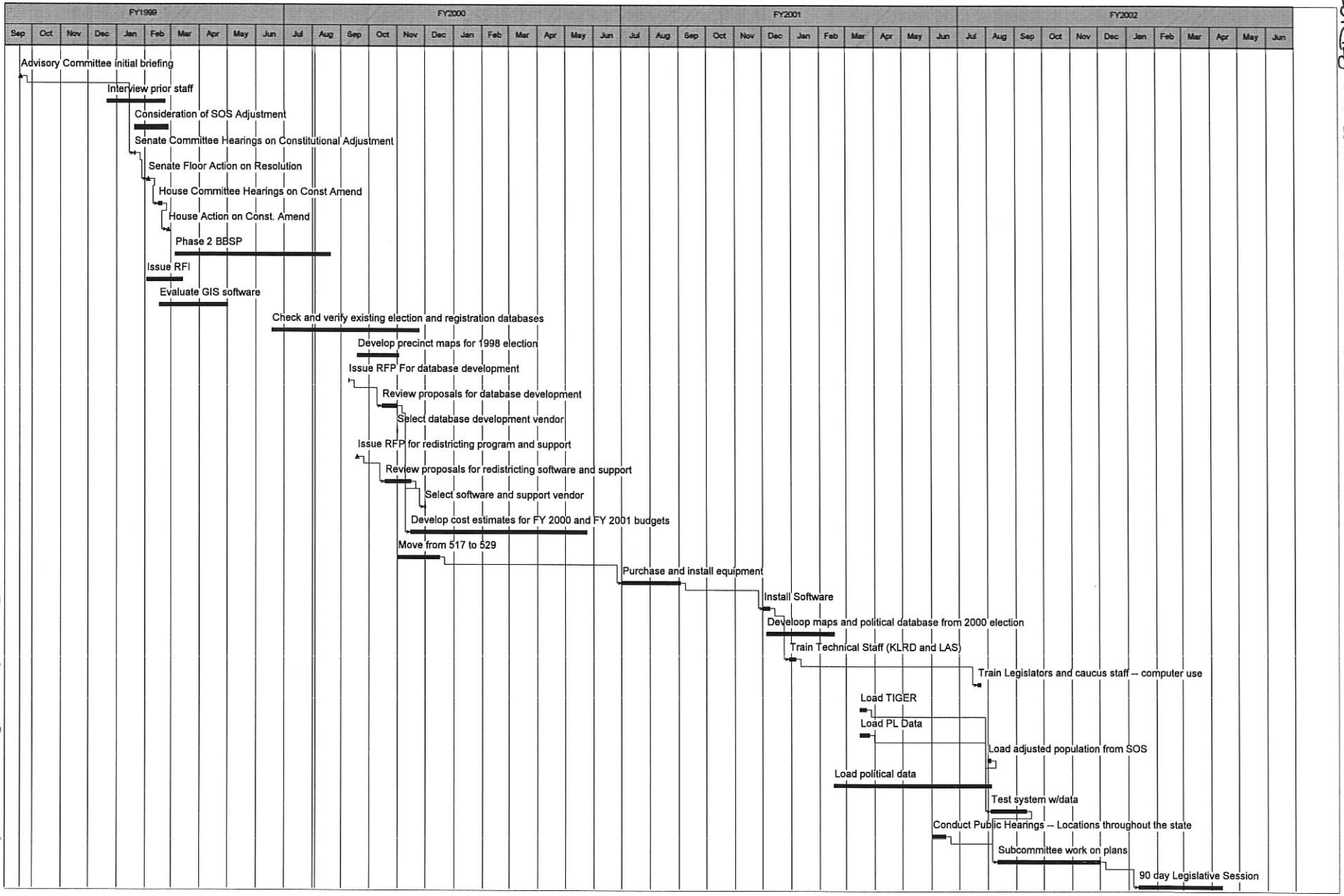
Rick Miller, Geographic Information Systems Policy Board
Kansas Water Office

109 SW 9th Street, Suite 300
Topeka, Kansas 66612-1249

Fred Hejazi
Digital Engineering Corp.
5525 Twin Knolls Road, Suite 321
Columbia, Maryland 21045

Paula Bishop
Public Systems Associates, Inc.
770 North Street
Baton Rouge, Louisiana 70802

Redistricting



Printed: 8/4/1999

SPECIAL COMMITTEE ON REDISTRICTING
ADVISORY GROUP
8-4-99
ATTACHMENT 2

Special Committee on Redistricting Advisory Group
8-4-99
Attachment 2