HB

152

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: HB152
PUBLISH DATE: 3/00/00

FISCAL NOTE

REQUEST:

Revision Date: March 24, 1989
Title: Special Approp. to UAA for the Gengraphic Info. Tech. Program
Sponsor: Representative Brown/Ellis
Requestor:

Agency Affected: University of AK Anchorage
BRU: UAA and UAF
Components:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES		270.0	270.0	270.0	270.0	270.0
TRAVEL		10.0	7.5	7.5	7.5	7.5
CONTRACTUAL		54.6	57.1	57.1	57.1	57.1
SUPPLIES		4	.4	.4	.4	.4
EQUIPMENT		-	-	-	-	-
LAND & STRUCTURES		-	-	-	-	-
GRANTS, CLAIMS		-	-	-	-	-
MISCELLANEOUS		-	-	-	-	-
TOTAL OPERATING		335.0	335.0	335.0	335.0	335.0
CAPITAL		-	-	-	-	-
REVENUE		-	-	-	-	-

FUNDING: (Thousands of Dollars)

GENERAL FUND		335.0	335.0	335.0	335.0	335.0
FEDERAL FUNDS						
OTHER						
TOTAL		335.0	335.0	335.0	335.0	335.0

POSITIONS:

FULL-TIME		4 fte	4 fte	4 fte	4 fte	4 fte
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

Positions:
1 fte Program Director/Faculty (UAA) 85.0 New Position
1 fte GIS Senior Analyst (UAA) 59.0 New Position
1 fte GIS Instructor (UAF) 66.0 New Position
1 fte GIS Technician (UAF) 60.0 New Position

Prepared by: Marsha Hubbard Phone: 474-7593
Division: Statewide Budget Office Date: 3/24/89

Approved by Commissioner: Dutch Ruppert, VP Finance Date: 3/24/89
Agency: University of Alaska

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Prepared by:
Rep. Kay Brown
February 3, 1989

HB 152: "An Act establishing a geographic information technology program at the University of Alaska Anchorage; and providing for an effective date."

Background and Findings:

Geographic information systems (GIS) are useful tools for managing vast quantities of geographic data essential to:

- natural resource development;
- environmental assessment;
- urban and regional planning;
- engineering design and drafting;
- land records management; and
- other activities of the state and local governments.

The effective use of geographic information technology has the potential to provide to state and local governments **substantial benefits through efficiencies from automation, increased capabilities for analysis, and the provision of better data for decision making.**

The major financial investments in GIS and data bases made by state and local governments have not been coordinated for maximum utility.

A need exists to **increase public and agency access** to digital geographic information, and to **increase the capability for data integration and exchange** among agencies.

Demand exists in state and local agencies and private industry for trained technicians and professionals in the field of geographic information technology.

A geographic information technology program at the University of Alaska Anchorage would **assist the university in its efforts to analyze global environmental problems** such as arctic haze and ozone depletion.

What the bill would do:

- establish a geographic information technology program at the University of Alaska Anchorage that may:
  - develop and expand the University GIS curriculum;
  - develop and sponsor land record and GIS training work shops and seminars;
  - undertake applied research projects that apply geographic information technology to state issues and problems;
  - provide information on the availability of federal, state, municipal, and other sources of geographic information;
  - prepare and publish on a regular basis geographic and cartographic information, data and capabilities;
  - assist state agencies and municipalities in the development of public access to automated geographic information;
  - consult with the Telecommunications Information Council and affected state and local agencies and avisory boards to recommend model standards and strategies relating to the implementation of land records management and GIS development; and
  - report annually to the legislature and the Telecommunications Information Council on the status of development of GIS services in the state.

HB 153: "An Act making a special appropriation to the University of Alaska for the geographic information technology program, and providing for an effective date."

General Fund: $209,000 appropriated as follows:

A) $144,000 for
   1) a half-time faculty, half-time program director; and
   2) a senior geographic information system analyst.

B) $65,000 for the cost of staff training, publication development, supplies and program support.

Kay Brown

Alaska State Legislature
House of Representatives

TO: Rep.Johnny Ellis, chair
House Health, Education and Social Services Committee

FROM: Rep. Kay Brown

DATE: Feb. 20, 1989

SUBJECT: HB 152 and 153

Thank you for scheduling a hearing last week on HB 152 and 153, which would establish a geographic information technology program at the University of Alaska, Anchorage. As the time available was insufficient to complete my testimony, I wanted to provide written comments for the committee's consideration.

What is GIS?

Geographic information technology is the ability to store, manipulate, and analyze geographic data for diverse applications.

The term Geographic Information System, or GIS, covers an array of computer systems designed to make maps and manipulate spatial data.

Applications

GIS is used for a wide variety of applications throughout local, state, and federal government agencies, the utilities, and in private industry. Some of its applications include:

Natural Resources
Oil, gas and mining exploration and development
Forest management
Wildlife and habitat analysis
Ground and surface water modeling/analysis/planning
Natural hazards analysis

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During Session:
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Land Use Planning/Zoning

Support for comprehensive planning
Environmental assessments
Hazardous waste management
Permit/development tracking and analysis
Redistricting
Noise analysis
Zoning and land use map production
Re-zoning evaluations

Utilities

Water/sewer
- Map generation/update
- Network tracing
- Emergency response
- Infiltration/inflow analysis
- Load forecasting
- Engineering

Gas
- Network tracing
- Transmission engineering/planning/load forecasting

Electric
- Engineering
- Load management/analysis
- Maintenance management
- Map generation/update
- Property record tracking

Telephone
- Plant design
- Dispatch/routing analysis
- Demand forecasting/planning

Public Works

Engineering design/drafting
Pavement management

Plat/site plan review
Sign/streetlight inventory/mapping
Traffic volume/accident analysis
Transportation modeling/route analysis

Parcel Mapping/Property Appraisal

Tax assessment and collection
Support for field appraisal
Ownership searches/query

Health and Emergency Services

Epidemiology
Delivery of health services
Support for dispatch
Incident mapping
Evacuation planning
Containment tracking

Law Enforcement

Crime incident analysis
Dispatch

Market Studies

Economic/demographic analysis
Site suitability analysis
Sales and service delivery districting

Military

Military base mapping
Battlefield planning/simulation
Tactical planning/operations
Engineering design/drafting

Role of the states in fostering use of GIS technology

Strategically situated as the middle layer of government, states are playing an increasing role in geographic information coordination. A number of state governments are assisting local governments with geographic information collection and automation. In several states, legislative and advisory committees have recommended establishment of an agency or office to coordinate data standards, access, and exchange, and to offer technical assistance. In many states, the proliferation of GIS at the local level, as well as recognition of the inherent inefficiency of developing multiple, incompatible systems, is driving the push for state coordination.

The Alaska situation

The State of Alaska has spent millions of dollars developing geographic information systems in the Departments of Natural Resources, Fish and Game, and Transportation and Public Facilities.

As in many other places, GIS in Alaska has developed on a piecemeal basis, and we now find ourselves with at least six separate systems in three different departments, none of which share a common landbase, or routinely share data.

In addition, more than a dozen other systems are operating or under development in Alaska at the federal and local government levels, and in the private sector.

I am concerned about uncoordinated expenditures, and the high costs of duplicative efforts.

As I view the situation, three areas need attention:

- We need better coordination of state agency activities, and beyond that, we need the capability to integrate geographic information from all federal, state, local and private sources.
- We need educational support and training opportunities for students, as well as technicians and professionals in the field, to support the employment demands of government and private industry.
- We need to improve public access to geographic information in public data bases.

After research last summer and fall, and looking at a number of programs in other states, I conceived the proposal that I have introduced as HB 152 and HB 153. (Note, in response to comments the proposal has been modified and narrowed in scope from the December draft proposal included in your background packet.)

What the bills do

HB 152 and HB 153 focus on these aspects:

• **Education** -- The bills would help develop and expand the GIS curriculum at the university of Alaska Anchorage.

GIS is a multi-disciplinary technology that builds on technologies from other fields -- computer science, information management, cartography, geodesy, photogrammetry, remote sensing, and data communications. The **application** of the resulting technology is the focus of this program. GIS has applications that are relevant to many fields, including engineering design and drafting, surveying, architecture, environmental assessment, geology, epidemiology, infrastructure development and management, marketing, transportation, and land use planning, to name some. The program ideally will be located outside any of these more specialized disciplines.

The emphasis within the university academic arena is also on supporting application of GIS technology. This program should help provide access to geographic information technologies for the broad range of possible applications within other academic programs. I envision that a few more introductory programs will be offered under the program. For advanced students, the primary emphasis would be support and assistance in the use of geographic information technologies in the student's application area, with opportunities for working internships in public agencies. The emphasis should not be in providing degree programs in GIS, but on providing a resource that can contribute to, and be used by, a wide variety of degree programs. I envision that the program's director will be part of the academic faculty, teaching part-time.

• The program would offer workshops and continuing education opportunities.

• The program would compile and provide information and develop publications.

• The bills provide that the program would recommend, in consultation with the Telecommunications Information Council (TIC) and affected state agencies and advisory boards, model standards and strategies relating to the implementation, indexing, documentation, mapping, data exchange, and other aspects of land records management and GIS development.

• The program would assist state agencies and municipalities in the development of policies, procedures and capabilities for **public access** to geographic data and technologies.

• The program would report annually to the TIC and legislature regarding the coordination, consolidation, and improvement of mapping and GIS services and programs in the state.

Cost

- staff: one part-time coordinator, part-time faculty; one systems analyst
- cost: $209,000

Data integration and adoption of standards

Perhaps the most controversial aspect of my initial proposal, I've modified the bills in response to suggestions to make the university's role strictly advisory in developing standards for data integration.

As far as state agencies are concerned, I believe this issue should be addressed by the Telecommunications Information Council, a statutory body composed of all commissioners of state departments who are charged with information management planning.

The TIC is an appropriate place to start addressing this complex issue, and it is the most logical body to effectively address issues which cross agency lines.

Questions

- **Is the University the best place for the program, or is it more cost effective to restructure one of the state's existing programs?**

Yes, the university is the best location because the university is in the education business. Other aspects, such as adoption of standards and coordination of state agency programs, can be addressed by the TIC.

- **Is this program going to become a statewide data base of geographic information?**

No. The program will have an educational focus and will use existing computer facilities of the university. The state should build upon its existing digital data bases within state agencies.

- **How will funding be structured to ensure perpetuation? It would be senseless to start a project of this type which could be cut from the next budget.**

Assuring funding can't be done for any state program. The Alaska Constitution requires annual review of programs and appropriation of money by the Legislature.

- **What will the mechanics be for tying the system to the real world? GIS is very simply a mapping function and to be useful it has to be based on established survey positions.**

I disagree that GIS is very simply, or primarily, a mapping function. What makes GIS unique as a technology is its analysis capability, which

builds upon the solid foundation of accurate basemaps. I agree that a GIS needs to be tied to established survey positions, and this is being done (to various degrees) in the state GIS systems.

• **How will this information be made available to the public?**

This is in part a resource allocation issue for the agencies, which do not have enough resources to do everything that's mandated. Education about and more emphasis on public access is needed. This is one of the areas the program will address. The State Library system is working now on an expanded electronic access system which could encompass a "data dictionary" of GIS information.

• **Why is Anchorage the best location?**

Most of the agency and private GIS systems are in Anchorage, and thus the demand is greatest there for the training courses the program would provide. Anchorage also offers the most opportunities for student internships within public agencies and private firms.

Background on programs in other states

Surveys reveal that use of geographic information technology is widespread within state governments. At least 45 states are using geographic information technology in at least one state agency, and at least 34 states have more than one geographic information system.

The main uses by states of geographic information technology are in the areas of natural resources, transportation, planning, public lands management, and property assessment.

Land and water, natural resources, and fish and wildlife inventory, planning and management; environmental assessment and monitoring. States are using GIS to make public policy decisions about resource and land use issues. At least 38 states have developed some capability to use geographic information technology for natural resources and land use analysis and management.

The State of **Vermont** is building a statewide GIS that was mandated in 1988 by passage of Act 200, which established comprehensive planning requirements for growth management. The Act appropriates $4.75 million over a five-year period for development of the statewide GIS, identified as a major tool to assist planning efforts. The Act requires that all data gathered locally for local planning, the development of regional data bases, and all state data must be compatible with the statewide GIS.

GIS is used to identify and analyze the development of minerals, coal, oil and gas, and timber resources, to prepare land use plans, and to manage historical and cultural resources. GIS is used to determine the best location

for hazardous waste disposal sites, and to analyze the effects of pollution. It is used to track and manage fish and wildlife, and to evaluate the effects of development on wildlife habitat.

Many agencies in **Minnesota**, which was one of the pioneers of GIS development at the state level, make use of the Land Management Information Center (LMIC) within the Minnesota State Planning Agency. LMIC is used by more than 100 environmental planning projects each year, such as analysis of shoreline erosion

Maryland's Automated Geographic Information (MAGI) System is another system used widely by state agencies for resource management and planning. MAGI was established in 1973 to serve as the primary data base for preparing a State Land Use Plan. MAGI has been used by the Department of State Planning, as well as other agencies, for agriculture land mapping; coastal use studies; power plant, sanitary landfill, and coastal facility siting; habitat studies of the wild turkey, bald eagle, and other wildlife; analysis of the potential for commercial forest productivity; highway corridor studies; and oil spill contingency plans.

The **Illinois** Department of Energy and Natural Resources uses its system for a variety of applications, including mining permit review and tracking, and site evaluation for hazardous waste materials. Like a number of other states, Illinois used its GIS to help prepare an application for the Super Colliding - Super Conducting facility competition.

Transportation. Geographic information technology is being used by at least 29 state Departments of Transportation. Many use it for engineering drafting and mapping; fewer use it for geographic analysis. **Michigan, Florida, and Ohio** were among the first states to begin using geographic information technology for transportation applications.

Specific transportation applications include road design, highway mapping, pavement and maintenance management, satisfying requirements of the Federal Highway Administration, capital budget planning, analysis of accident data and traffic volumes, routing and dispatching, and special projects. Many states are attempting to link road log data in mainframe files with their mapping and drafting systems.

Tax appraisal and land records. Keeping track of boundaries, property ownership, taxation, and assessment information is a major use of GIS for states and local governments. In most states, property tax assessment and collection is regulated by the state and carried out by local governments. Several states, including **New York, North Carolina, Kansas, and Virginia**, have developed programs to help local governments update and modernize their land records.

The State of **New York** was one of the first to develop a comprehensive local property mapping program. Legislation passed in 1970 amended the Real Property Tax Law and required each county to prepare and maintain tax maps. The legislation directed the New York State Board of Equalization and Assessment to establish rules and provide guidance in preparation of the new tax maps, and also to consider other potential land uses of the maps. The State of New York provided one dollar per parcel to counties to help them obtain new tax maps that conformed to the rules and regulations. Fifty of 57 New York counties had completed tax mapping projects by late 1988, 18 years after the program began.

North Carolina initiated a program in 1977 to modernize and establish greater uniformity in local land records systems. The North Carolina Land Records Management Program provides, at the request of a county governing body, technical assistance, training, and advice on standards and specifications for preparation of county base maps and cadastral maps. Adoption of standards is voluntary. The program is authorized by statute to provide matching grants to counties of up to 50 percent of the costs of a land records project. As of late 1988, 38 of 100 counties had completed their mapping projects, and 35 counties had work in progress. The state has put about $3 million into the program since 1977, and the counties have spent about $32 million.

In response to legislation passed in 1985, the State of **Kansas** undertaken a major computer-assisted mass appraisal mapping project costing about $65 million and covering 80,000 square miles and 1.5 million parcels of property. The Kansas Department of Revenue, Division of Property Valuation, established guidelines for the property mapping effort of the 105 counties. The project, due for completion in 1989, has resulted in a uniform, computerized property ownership maps for the entire state.

The **Virginia** General Assembly established a Division of Mapping, Surveying, and Land Information Systems in 1987; one of the division's major responsibilities is to provide technical advice and assistance to local governments in the development of land records systems. A Joint Subcommittee studying the feasibility of establishing the division reported that "local governments should be encouraged to move in the direction of modern land information systems as a matter of good public policy. At the simplest level, equity in the matter of property assessment and taxation will be promoted by the greater accuracy of property mapping. Testimony indicates that local governments usually find that the amount of taxable land increases when the more accurate systems are installed, so that there is some economic incentive to do so, but we believe that the equity factor is more important. Beyond property records and taxation, it is clear that local

governments are being asked to make increasingly complex planning decisions and to consider an increasingly greater number of complex and interrelated factors in these decisions. Modern land information systems technologies can better enable them to do so."

Redistricting. Using GIS to redraw election districts based on the new census data will become a common application in the early 1990s. Many GIS systems provide this application.

Minnesota was one of several states to use GIS for redrawing both Congressional and state legislative districts following the 1980 census. The Majority and Minority caucuses of the state House and Senate used the state Land Management Information Center's GIS for analyses of new election districts. When the legislators were unable to agree quickly enough, the federal District Court stepped in, purchased its own workstation, hired a consultant, and developed a plan using the ter's GIS.

Other states using GIS for reapportionment in 1981 included **Florida, Maryland, and New York**.

Emergency Medical Services. The **Texas** Departments of Health and Highways and Public Transportation are implementing a statewide automated geographic information system that could serve more than 1,000 emergency medical service providers. The system was developed in 1987-1988 by the Lyndon B. Johnson School of Public Affairs of the University of Texas at Austin in cooperation with the state agencies. The system will automate the collection, transfer, and analysis of hundreds of variables of information related to calls for emergency medical care and responses of pre-hospital medical providers.

Conclusion

The effective use of GIS technology has the **potential to provide substantial benefits** to the state and local governments through **efficiencies from automation, increased capabilities for analysis, and the provision of better data for decision making**.

A demand exists in state and local agencies and private industry for trained technicians and professionals in this rapidly growing field. Now, virtually all training is done in the Lower 48. **An expanded program at the university will provide job opportunities for Alaskans.**

I urge your favorable consideration of HB 152 and 153.

Sec. 44.19.502. Telecommunications information council. (a) There is created within the Office of the Governor the Telecommunications Information Council.

(b) The council is composed of the governor, the commissioner from each principal department of the executive branch, the president of the University of Alaska, and the executive director of the Legislative Affairs Agency. The chief justice of the supreme court may appoint a member to serve on the council. Each commissioner shall appoint a deputy commissioner to serve as an alternate for the commissioner. The vice-president of the University of Alaska shall serve as alternate for the president.

(c) The governor shall preside over the council. The council shall meet at least four times each year. The council may meet more frequently at the call of the chair or if requested by a majority of the council's members.

(d) The Office of the Gover hall provide professional and clerical staff for the council. (§ 2 .3 SL.

Sec. 44.19.504. Powers and duties. (a) The council shall

(1) establish guidelines and prepare a state short-range and long-range information systems plan to meet state needs;

(2) in accordance with the state information systems plan, establish guidelines and direct state agencies to prepare agency information systems plans;

(3) in accordance with statutes governing the availability and confidentiality of information, establish guidelines for the accessing of information by the public;

(4) publish in the first quarter of each calendar year a rep t on the activities of the council.

(b) In addition to its duties under (a) of this section, the council may establish information-related policies and engage in information-related activities it considers necessary or appropriate.

(c) This section does not grant council responsibility for broadcast programming content. Program design, production, and use are the responsibility of the program-sponsoring agency or other entity.

(d) This section does not prohibit a state agency from developing information systems that are inconsistent with the guidelines established in (a) of this section if the council gives written authorization for the user agency to engage in the independent design, development, management, or operation. The council may authorize independent development only upon a showing of necessity. A description of authorization under this subsection shall be included in the annual report required under this section. Written authorization under this subsection is not required for intra-agency use of microcomputers.

(e) A state agency, inc
independent system unde
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Sec. 44.19.506. Court
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Sec. 44.19.519. Defin
(1) "council" means th
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Chapter 21. D

Article
1. Department Functions (§§
3. Automatic Data Processin
4. Older Alaskans Commissi
5. Alaska Council on Scienc
6. Alaska Public Broadcastin
7. Telecommunications (§§ 4-
8. Office of Public Advocacy

Article

Section
20. Duties of department
25. [Repealed]

Sec. 44.21.020. Dutie
ministration shall
(1) *[Repealed, § 4 ch*
(2) make surveys an
dures, methods, and or
(3) keep general acco
(4) approve vouchers
(5) operate centralize
sary storerooms and wa

(e) A state agency, including an agency authorized to develop an independent system under (d) of this section, shall coordinate the design, development, management, and operation of its information systems with the council. (§ 2 ch 53 SLA 1987)

Sec. 44.19.506. Court system. The administrative director of courts shall establish information systems guidelines and prepare a short-range and long-range information systems plan for the court system. The guidelines and plan must be consistent with the telecommunications information guidelines and plan adopted by the council under AS 44.19.502 — 44.19.519 and must be adapted to the special needs of the judicial branch as determined by the administrator of courts. (§ 2 ch 53 SLA 1987)

Sec. 44.19.519. Definitions. In AS 44.19.502 — 44.19.519

(1) "council" means the Telecommunications Information Council;

(2) "state agencies" means all departments, divisions, and offices in the executive and legislative branches of state government and the University of Alaska; it does not mean the Alaska Railroad Corporation or an agency of the judicial branch of government. (§ 2 ch 53 SLA 1987)

Chapter 21. Department of Administration.

Article
1. Department Functions (§§ 44.21.020, 44.21.025, 44.21.050)
3. Automatic Data Processing (§§ 44.21.150, 44.21.160)
4. Older Alaskans Commission (§§ 44.21.230 — 44.21.240)
5. Alaska Council on Science and Technology (Repealed)
6. Alaska Public Broadcasting Commission (§§ 44.21.266, 44.21.268)
7. Telecommunications (§§ 44.21.300 — 44.21.330)
8. Office of Public Advocacy (§§ 44.21.410, 44.21.450 — 44.21.470)

Article 1. Department Functions.

Section
20. Duties of department
25. [Repealed]
50. [Repealed]

Sec. 44.21.020. Duties of department. The Department of Administration shall

(1) *[Repealed, § 4 ch 97 SLA 1976.]*

(2) make surveys and studies to improve administrative procedures, methods, and organization;

(3) keep general accounts;

(4) approve vouchers and disburse funds for all purposes;

(5) operate centralized purchasing and supply services, and necessary storerooms and warehouses;

12-02-88
Rep. Kay Brown

Proposal to establish the
ALASKA GEOGRAPHIC INFORMATION TECHNOLOGY PROGRAM

A. ISSUES

Traditionally, geographic information has been stored and displayed on maps and other paper cartographic products. More recently, computer-based systems, known as geographic information systems (GIS), have enabled users to store and selectively retrieve geographic data in customized formats suited to their management needs. Geographic Information Systems have been used by the State of Alaska since the late 1970's as a tool for government decision-making. Many millions of public dollars have been spent by state, local and federal agencies in Alaska on geographic information systems and data bases, but these efforts have not been coordinated for maximum utility. More than twenty geographic computer systems are operating or being built in the public and private sectors; the state has six systems within three state agencies.

Current issues concerning the use of GIS technology are:

--resources are fragmented and sometimes dissimilar
--budget reductions have cut many services
--trained staff have left the state
--data bases are not being adequately maintained
--integrating data is a problem
--public access to data is limited
--management-level support is lacking
--users and managers need improved education and training
--Alaska lacks a comprehensive GIS educational program

B. STRATEGY

The State of Alaska recognizes that information is a valuable resource that should be managed to yield maximum public benefit. Geographic information, in particular, is expensive and multiple-use in nature. The strategy for managing these resources involves:

--planning by individual state agencies to manage information systems for their respective operational needs;

--increasing public access to information on a broad scale, which is beyond the scope of individual agencies;

--facilitating information sharing and transfer as a goal of the State of Alaska; and

--creating a Geographic Information Technology Program at the University of Alaska Anchorage.

C. GOALS AND OBJECTIVES

1. Goal

Enhance the use of geographic information systems and related information in solving Alaskan problems and in managing Alaska's resources, and establish a strategic direction for the State of Alaska's role in achieving this goal.

2. Objectives

a. To improve the utility of, and access to, geographic information in the state of Alaska.

b. To apply information to foster the development of Alaska's resources.

c. To encourage and facilitate coordination and sharing of digital geographic information among all agencies with an interest in Alaska.

d. To support the operational needs of state agencies and to facilitate better management and policy decisions.

e. To assist state agencies in planning for information systems which meet their specific needs and are consistent with the strategic direction of the State.

f. To provide leadership in the creation and maintenance of integrated geographic information systems and cooperative data bases, and in the establishment of standards and procedures for data exchange.

g. To create educational and training opportunities on geographic information technology and applications within Alaska.

h. To further applied research on geographic information technology.

D. THE PROGRAM

1. Provide <u>technical advice and assistance</u>.

   a. Advise and assist on the implementation, management and improvement of land records and geographic information systems upon the request of a state agency or local governing body.

   b. To the extent feasible, provide technical and user assistance to the public.

2. Facilitate <u>information transfer</u>.

   a. Provide information on the availability of federal, state, local and other sources of mapping activities and products, aerial photographs, digital data bases, surveying and land records, natural resources and other related data.

b. Compile and publish a bi-annual directory of Alaska's geographic/cartographic information, data and capabilities.

c. Publish a quarterly or bi-monthly information review journal providing updates about information and information sources in Alaska.

d. Assist agencies in developing policies, procedures and capabilities for public access to data.

e. Analyze options for transferring data among agencies and assist in developing ad hoc and ongoing data transfer mechanisms.

3. Develop standards.

a. Develop and recommend model standards and requirements with regard to indexing, documentation, mapping, data exchange and other aspects of land records and geographic information systems (in consultation with affected state agencies and a Survey and Mapping Advisory Board).

b. Promote access to, and exchange of, federal and other digital data banks through standards which are compatible with those of the federal government.

4. Expand education and training.

a. Develop and administer land records and geographic information system training workshops, seminars and continuing education for government employees and other professionals.

b. Develop and expand the University's GIS curriculum. Draw upon the GIS expertise available in the Anchorage area from the public and private sectors. Include an undergraduate and masters degree program.

c. Promote the use of GIS technologies in other relevant University curricula.

5. Conduct applied research.

a. Conduct research projects for federal, state and local governments to apply GIS and related technologies to Alaskan issues and problems.

b. Conduct research projects to enhance GIS and related technologies.

c. Establish a working relationship with the new National Science Foundation-funded National Center for Geographic Information and Analysis.

6. Recommend improvements in information resources management.

a. Recommend to the Alaska Legislature and Governor ways of coordinating, consolidating and improving mapping and GIS-related services and programs in state agencies and the University.

E. IMPLEMENTATION

1. Requirements.

   a. Fund two new positions: the Program Director and a Senior GIS Systems Analyst.

   b. Provide start-up costs for training staff in GIS applications and technology.

   c. Provide initial funds for publication development.

   d. Fund computer resources for academic, data conversion and information transfer purposes.

2. Sources.

   a. The Legislature provides a mandate and seed money.

   b. The University provides a center for program implementation with a focus on interaction within the community, a concentration on solving Alaskan issues and a commitment to the development of educational excellence.

   c. Seek a cooperative agreement with the US Geological Survey to use their GIS and remote sensing and related cartographic facilities and expertise in Anchorage, linking them with the University.

   d. Seek grants from the newly created Alaska Science and Technology Foundation for specific projects that apply GIS technology to solving Alaska problems.

   e. Seek grants from foundations and non-profit organizations for GIS-related work.

   f. Seek reimbursable service agreements with agencies for rendering GIS services.

   g. Use subscription fees and paid advertising in publications to recover production and operational costs.

AUTODESK, INC.

2320 MARINSHIP WAY
SAUSALITO, CA 94965
(415) 332-2344
FAX NO. (415) 331-8093
TELEX: 275946

January 16, 1989

Alaska State Legislature (House)
Attn: Representative Kay Brown
P.O. Box V
Juneau, AK. 99811

Dear Represenatative Brown:

I would like to express support for the proposal to establish a Geographic Informatic Technology Program at the University of Alaska Anchorage. Alaska is, of course, an ideal environment for the application of GIS technology and it is only appropriate for the University to be taking a leadership role in this rapidly developing technology.

For several years I was active in the field of GIS systems in Alaska as both a State employee and consultant. During that time, I noted a large gap between what was happening in industry/government and [the lack of] what was being taught at the University of Alaska. This new program should address this gap and prepare many more Alaskans to work in various aspects of GIS technology.

I also think that the University can be an effective agent for promoting standards and the ready exchange of GIS databases.

I support this program and hope you will work to see the Alaska Geographic Information Technology Program established this Session.

Sincerely,

Robert M. Bennett

136 San Felipe Way
Novato, CA. 94945

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United States
Postal Service

The Honorable Kay Brown
Alaska State Legislature
P. O. Box 202661
Anchorage, AK 99520-2661

Re: Proposal to Establish a Geographic Information Technology Program

Madam:

Thank you for sending me the background information relative to the referenced proposal.

The United States Postal Service would benefit from the establishment of the program at UAA. We currently use paper maps to maintain ZIP Code boundaries and to plan carrier routes. When changes occur, the maps must be manually changed. Because of budget constraints these changes do not occur as timely as required.

Since our ZIP+4 (9-digit Zip Code) System has begun to gain widespread acceptance, we are receiving requests to obtain copies of our ZIP+4 coded maps. We used maps from local government planning offices which are in many varying scales. Therefore, it is not practical to reproduce the maps without manually recopying our ZIP+4 code borders.

Adding the ZIP+4 system to geographic information systems further enhances their use. The ZIP+4 system allows the GIS files to be accessed with a mailing address data base. A mailing list has the potential to highlight a map with the location of each address. Thus, marketing strategists would be able to plan where to place retail outlets, service centers, etc. Adding the ZIP+4 system also establishes a link with census data.

Our office, Address Information Systems, designed and built the ZIP+4 system. We highly support this proposal.

Should you need additional information, please contact me at 564-2846.

Sincerely,

Joshua McCoy
Manager, Address Information Systems
U.S. Postal Service
Anchorage Field Division
Anchorage, AK 99599-9321

ANCHORAGE
SCHOOL DISTRICT

4600 DeBarr Avenue
P.O. Box 196614
Anchorage, Alaska 99519-6614
AREA CODE (907) 333-9561

Representative Kay Brown
P.O. Box V
Juneau, AK 99811

January 10, 1989

Dear Kay,

We reviewed with great interest your proposal to establish a Geographic Information Technology program at the University of Alaska. Your proposal embodies many of the goals and objectives that were adopted by the Anchorage School District in the formulation of our own GIS program. As a means of reinforcing our interest in your proposal, I would like to take a moment to highlight a few key elements of the School District GIS, including major developments to date, as well as long term objectives of the program.

The Anchorage School District GIS has been functionally operative for the past 18 months. The program is managed by the ASD Planning Department within the Division of Planning, Communications and Development.

The School District recognizes that a GIS would provide increased capability while saving educational dollars. In particular, we seek:

- Automated school bus routing and scheduling; school bus pass and rider list generation; bus route, bus stop and individual school attendance area map generation.
- An ability to economically develop and manage more complex transportation scenarios such as furnishing districtwide busing for optional program students.
- A computerized attendance boundary planning capability with graphics display and map generation capability.
- Increased ability to do effective capital improvements and strategic planning due to better information management and access.
- An instructional component which could be used to teach high school students computer cartography, geographic concepts and natural resource management skills.

To work towards the achievement of these goals, the District has been working cooperatively with the Municipality of Anchorage Department of Public Works. We are developing our own GIS, using their digital geographic data base. The program is currently in the data base development phase, although many mapping capabilities are already on line.

In addition to gaining the benefits of a GIS as a powerful planning tool, the District hopes to develop a curriculum component in GIS. It is apparent to us that GIS is a booming career field world-wide as well as locally. While jobs are continually becoming available for a wide range of technical positions, many employers are forced to look out of state for trained personnel. The District, in the 1988-89 Legislative Requests, is requesting funds to purchase data processing equipment which could be used for GIS education at the Martin Luther King, Jr. Career Center. Included within the requests are distributive environment workstations which will be used to provide training in AUTOCAD, office automation and GIS. It is envisioned that high school curricula will be developed for King Career Center training programs and that the University could use the training area for their programs as well. It is our hope to train our students to take advantage of the career possibilities in GIS here in Alaska.

The goals of your proposal have a strong common thread with the GIS objectives of the School District. We are anxious to support and join your efforts to achieve those goals. I anticipate being in Juneau sometime during the week of January 16-20 to deliver copies of the ASD 1988-89 Legislative Requests to legislators and to discuss proposed projects with them. I will request that our lobbyist, Ms. Sharon Macklin, set up a meeting with you during this period to discuss School District project proposals in general and GIS in particular. In the meantime, please feel free to contact me at 269-2206 if you would like to discuss any of these matters. Thank you.

Sincerely,

William J. Schaedel, AICP
Planning Manager

WJS/ES/kew

cc: Mike Malone
Bill Mell
George Walker
Doug Phillips
Emma Walton
Sharon Macklin
Kimball Forrest/MOA

UNIVERSITY OF ALASKA COMPUTER NETWORK

303 TANANA DRIVE • FAIRBANKS, ALASKA 99775-5180 • (907) 474-7665

January 6, 1989

Representative Kay Brown
3111 C Street
Suite 435
Anchorage, Alaska 99503

RE: A PROPOSAL TO ESTABLISH A GEOGRAPHIC INFORMATION TECHNOLOGY PROGRAM AT THE UNIVERSITY OF ALASKA ANCHORAGE

Dear Representative Brown:

There is a real need for the program described in your proposal to establish an Alaskan geographic information technology program. Many U.S. and Alaskan agencies have a need to establish geographical information systems, and, in fact, many state, local, and U.S. agencies are already using such information systems. This has created a demand for trained employees to assist in these efforts. Establishment of an information program such as described and the sharing of data should minimize the number of person hours required to enter geographic data into computer systems. Eventually, through standardization and sharing, geographic information will not only be available from many different agencies, but it will also be comparable and, therefore, much more usable.

Immediate benefits would include:

(a) sharing of information regarding performance of the various software and hardware products available,

(b) trained staff,

(c) establishment of a forum whereby information could be exchanged among the various professionals practicing in the area of geographic information systems, and

(d) possible elimination of duplicate data entry and perhaps even complete systems resulting in a savings of hundreds of thousands of dollars per year to Alaskan citizens.

Long term benefits will reduce the risk and start up costs of geographic information systems in Alaska. This will make them more cost effective and, therefore, available to additional local, state, and government agencies. Similar benefits may also be possible in private industry.

The forum which will be provided by the suggested Survey and Mapping Advisory Board may be the greatest benefit. The role of this Board needs to be clearly defined and active. It should be made up of state agency personnel, private industry, and other knowledgeable professionals.

Sincerely,

Con Dietz
Executive Director/UACN

CD:vmm
89002

cc: Bob Warren

JMM

January 6, 1989

The Honorable Kay Brown
State Representative
State of Alaska
P.O. Box V
State Capitol
Juneau AK 99811

Dear Kay:

We recently received a copy of your proposal to establish a geographic information technology program at the University of Alaska Anchorage. The proposal is a good one, and we would like to support your efforts in any way you might feel is appropriate. In that regard, we have contacted Dave Black and Brett Jokela of James M. Montgomery's (JMM) Anchorage office to discuss the matter. A number of ideas surfaced on how we might help. For example:

- JMM could help organize a mapping/GIS industry committee to work with user groups and non-profits in support of the program.

- Work with the Engineering/Survey program heads and staff at University of Alaska to gain support for the proposal. Dave Black has some strong contacts in this regard.

- Provide lobbying and/or testimony in Juneau in support of the program. This might particularly center on JMM's (and others in the industry) need for graduates of the program. We have three offices in Alaska and are currently involved in a number of mapping/GIS projects. We need qualified technical staff now and in the future.

There may certainly be other ways we can support your efforts, and we should discuss them. If you feel we can help, please do not hesitate to contact us either in Anchorage or at our Pasadena Headquarters. In the meantime, Dave Black and Brett Jokela may be contacting your staff for further input.

Sincerely,

R. R. Mann
Manager
AM/FM Programs

rp

cc: Dave Black
Brett Jokela

STEVE COWPER, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

NORTHERN REGION, REGIONAL DIRECTOR

2301 PEGER ROAD
FAIRBANKS, ALASKA 99709-5316
PHONE (907) 451-2210

January 6, 1989

Re: Alaska Geographic Information
Technology Program
Log #89-51

The Honorable Kay Brown
Alaska State House
P.O. Box 20-2661
Anchorage, AK 99520-2661

Dear Representative Brown:

We would like to offer our support for your proposal to establish the subject program. You may also want to consider the University's Geophysical Institute as an appropriate home for such a program. They currently have extensive data bases and invaluable expertise in this area. We often rely on them as a source of geographic information. We make limited use of computer based geographic information systems currently available, including the mapping system supported by our Department. We feel it would be beneficial that the program you have outlined provide technical assistance and training components in Juneau and Fairbanks as well as Anchorage.

We are also somewhat concerned over the proposal to involve this program in setting standards. It is our understanding that there are currently national standards for geographic information systems; it might not be wise to duplicate this on a state level. Should any standards adopted become mandatory, they would tend to stifle innovation in this area of advancing technology. Rigid standardization might force agencies to follow standards not appropriate for a given application.

Thank you for the opportunity to review this proposal. We hope our comments will assist you.

Sincerely,

Lynn J. Harnisch, P.E.
Regional Director
Northern Region

JR:mlh

cc: Jeffrey C. Ottesen, Director, E&O, Headquarters
Leo Lutchansky, Supervisor, Communications & Information, Headquarters

25A-T59LH

United States Department of the Interior
NATIONAL PARK SERVICE
ALASKA REGIONAL OFFICE
2525 Gambell Street, Room 107
Anchorage, Alaska 99503-2892

IN REPLY REFER TO:
A7223(ARO-RNR)

7 JAN 1991

Honorable Kay Brown
P.O. Box 20-2661
Anchorage, Alaska 99520-2661

Dear Ms. Brown:

We enthusiastically support the proposal to establish a Geographic Information Technology Program at the University of Alaska at Anchorage.

A facility to educate and train persons in this rapidly developing technology is definitely needed in the Anchorage area. We would hope to see a variety of geographic information system (GIS) related workshops, seminars, and continuing education programs offered to supplement undergraduate and master's degree programs. In addition to being a resource center for GIS expertise, references and materials, other functions of the facility should be to promote GIS research and to encourage the use of GIS in other disciplines.

Such a facility would be the logical organization to take the lead in developing and recommending standards for GIS mapping, documentation, data exchange and other GIS related considerations.

In order to better serve the needs of a growing GIS community in the state we would caution against locking into any one GIS system. Rather, different systems should be explored and analyzed. The best features of each should be utilized for specific applications and possibly incorporated into an eclectic system.

The goals and objectives of the program are admirable. Thank you for the opportunity to comment on this important proposal.

Sincerely,

Richard J. Stenmark
Acting Regional Director

United States Department of the Interior
NATIONAL PARK SERVICE
ALASKA REGIONAL OFFICE
2525 Gambell Street, Room 107
Anchorage, Alaska 99503-2892
IN REPLY REFER TO:

The Honorable Kay Brown
Alaska House of Representatives
State Capitol
Juneau, Alaska

Dear Representative Brown,

I recently read your "Proposal to Establish a Geographic Information Technology Program" and wanted to express my thoughts on the subject. I am currently the Computer Systems Analyst for the National Park Service GIS in Anchorage. My perspective therefore comes from a computer programmer/analyst point of view more than a GIS user.

I think the goals and objectives as stated in your proposal are, for the most part, quite excellent. It is exciting to see some steps being taken in this direction here in Alaska. The creation of cooperative databases and the intent of developing standards and procedures for data exchange are areas that need prompt attention. There are numerous GIS' yet very few of them are able to transport information to another GIS. Providing technical advice and assistance along with expanding education and training can be a great service to GIS users. The number of professionals using GIS in their daily work routines will continue to increase, but a great many of them need to understand the incredible power and abilities of a GIS. Currently there is no where in Alaska for users to gain the kind of knowledge needed to effectively use these systems. There seems to be a good number of professionals that can build a GIS, the people that really need knowledge and assistance at this point are the people using the systems.

I do have some concerns about the proposed program being associated to closely with any single GIS. There are numerous entities within the Anchorage area that use GIS'. They are a diverse group, and it would be a terrible waste to forsake so much talent and expertise. The reason there is a proliferation of systems available is that each one addresses a particular niche. For one system to deal with all the various requirements of the user community would require a very large and complex system. Instead of a cooperative agreement with a single agency perhaps the University would be an excellent arena to create a consortium of local GIS organizations.

This would delete some of the political and bureaucratic problems that must be dealt with in the normal course of trying to get numerous governmental agencies to work together.

I applaud your efforts and hope that they will result in the type of program set forth in your proposal. If I can be of any further assistance please feel free to contact me.

Sincerely,

Patrick McClanahan

Patrick McClanahan
Computer Systems Analyst (GIS)
National Park Service
2525 Gambell St. Rm 107
Anchorage, Alaska
99503

MEMORANDUM (Brief Communications) **State of Alaska**

TO:	Name: Representative Kay Brown	Dept./Div./Sect.: P.O. Box V Juneau, Alaska 99811		Mail Stop:
FROM:	Name: Joe Wehrman DNR	Dept./Div./Sect.: Chief, Resource Management Div. of Forestry	Phone: 762-250	Mail Stop:
SUBJ:	Proposed G.I.S. Technology Program		Date: 1/4/89	

Your proposal just worked its way to me this morning. It sounds as though it is a viable addition to the University's Extension system. There should be adequate funding already in the University System budget to fund what you have proposed by merely attaching your proposal as legislative intent to their budget.

Most programs like this have the staff going to every "outside" meeting that comes up and they aren't available at home to answer questions. An example of this is the U.S. Forest Service State and Private Forestry program. There are examples of such a program succeeding such as NASA's EROS Field Office under Dave Carnegie.

Good Luck.

02-001C (Rev 8/85)

UNIVERSITY OF ALASKA-FAIRBANKS
Fairbanks, Alaska 99775

MEMORANDUM

TO: Representative Kay Brown
Alaska State Legislature

FROM: Vera Alexander
Professor & Director, Institute of Marine Science
Acting Dean, School of Fisheries & Ocean Sciences

DATE: January 4, 1989

SUBJECT: Geographical Information Technology Program

Since the University of Alaska Anchorage now has the Arctic Environmental Information and Data Center, it might be worthwhile to consider aligning the proposed Geographic Information Technology Program with AEIDC. This would have several advantages. The mission of the proposed Center fits within that of AEIDC. Additional administrative costs could be reduced. The publication capability already exists within AEIDC, and with the exception of computers, little new equipment would be needed. The educational aspects would involve AEIDC in teaching, and more completely integrate it into the academic setting.

VA:nw

Alaska Section
AMERICAN CONGRESS ON SURVEYING AND MAPPING
P.O. Box 3761
Anchorage, Alaska 99510

January 3, 1989

Representative Kay Brown
P.O. Box V
State Capitol
Juneau, Alaska 99811

RE: GIS Program

Dear Representative Brown:

I want to inform you that the Alaska Section of the American Congress on Surveying and Mapping (ACSM) has a keen interest in your recent proposal to establish a Geographic Information Technology Program at the University of Alaska. This Section agrees that GIS activities at the state level are often uncoordinated and perhaps redundant. This proposal is a positive step in a forward direction.

This Section of ACSM desires to continue a close dialogue with you concerning this proposal. As you are aware, we support the activities of the Alaska Surveying and Mapping Advisory Board, which now has a sub-group concerned with the GIS issues that you have raised. Hopefully, we will be able to reach a consensus on the issues and strategies, and work as a unified industry for the implementation of a coordinated GIS program.

The upcoming Alaska Surveying and Mapping Conference will provide an excellent forum for discussions regarding this proposal. I would like to invite you to make a brief presentation at our Annual Meeting which will be at 5:30 p.m. on Thursday, February 9 at the Hotel Captain Cook. I look forward to the scheduled GIS panel on the following day.

Sincerely,

John Oswald

John Oswald
Chairman

cc: K. Forrest, URISA
D. Fordney, ASPLS
M. Shasby, ASPRS

Alascom, Inc. 210 E. Bluff Rd. P.O. Box 196607 Anchorage, Alaska 99519-6607 Tel 907-264-7000

ALASCOM

January 3, 1989

Representative Kay Brown
Alaska State Legislature, House
P. O. Box 202661
Anchorage, AK 99520-2661

Dear Representative Brown:

In response to your proposal to establish a geographic information technology program, Alascom has the means to provide the communications between the different GIS systems.

As you know, the agencies that have GIS systems didn't purchase the same type of computers, meaning they can't communicate with each other. Alascom can solve this with our packet switched network, "AlaskaNet." AlaskaNet can convert the computer languages of dissimilar computers in such a way as to allow them to talk to each other.

That is just one way AlaskaNet could benefit your program. The other is our public access locations throughout the state would provide instructors, students, and others with a need to access a GIS system local access to that system.

I am enclosing our rates for service and a history of AlaskaNet with this letter. I believe AlaskaNet can be a cost-effective means to reach your program's goals.

Please call me so that we can discuss the ways in which Alascom, Inc. and AlaskaNet can help you with your program.

Sincerely,

Jim Chatleain
AlaskaNet Data Consultant

Enclosures

031/NN

Alascom, Inc / 210 E. Bluff Rd / P.O. Box 196607 / Anchorage, Alaska 99519-6607 Tel 907-264-7000

January 3, 1989

Representative Kay Brown
Alaska State Legislature
P. O. Box 202661
Anchorage, AK 99520-2661

Dear Representative Brown:

As the Data Consultant for Alascom's Packet Switch Network, I am pleased to respond to your request for ways to help establish a geographical information technology program. Here is a brief history of "AlaskaNet."

Alascom's entry into packet switching came as a result of PC users' need for cost effective data communication and private research into computer use in Alaska. Prior to "AlaskaNet", the Alaskan end user had to pay substantially more for access to remote data bases (i.e., Compuserve, Source, etc.) than users in the contiguous United States. Before "AlaskaNet" (December 1983) the end user's access was provided by Tymnet (toll free), Telenet (Juneau and Anchorage local call), or by direct dial to the data base. All of these methods had surcharges built in.

After feasibility studies, Alascom decided to purchase and install its own network. "AlaskaNet" was installed and operational in December 1983, connecting four major areas of Alaska and gateways in Seattle, Washington, to the rest of the world. Since then we have increased the network to include 26 more locations in Alaska, with plans to add more this year. All of our access locations currently have 300/1200 baud auto answer modems; we plan to upgrade to 2400 baud in several locations in 1989.

AlaskaNet contains some 30 nodes, or psuedo nodes, located in 11 Alaskan cities and Seattle, Washington. We use Tymnet engines as our nodes (standard, mini, micro, and ATC's) with Infotron stat MUX's providing local access in the remaining cities.

All nodes are running Tymnet II software, and we offer the following host and terminal interfaces using Tymnet software. The interfaces are X.25, SDLC, 3270, 2780/3780/Hasp, and Asynchronous. All can be configured to meet the requirements of the customer equipment.

AlaskaNet also has X.75 gateways to Tymnet, Telenet, and Compuserve, with T202 gateways to Tymnet and Geonet. We have obtained agreements for transit traffic with several foreign networks. They are in Great Britain, Finland, Israel, Switzerland, Canada, Australia, Philippines, Peru, and others. If there is a specific country or network to or from which communications is required, we will be able to arrange it through either Tymnet or Telenet. The rates for such communications vary for each country or network accessed.

AlaskaNet offers two unique services designed to fill the needs of Alaskans and their users throughout the world. The first is "OnLine", our electronic mail system. This is unique in that the rate structure is set up to accommodate individuals and small companies rather than large corporations. Current users include Alaskan, Australian, American, and Canadian schools using the system for a computer pen pal network. Other users include government agencies, insurance companies, and collection agencies.

The second system is Aviation Weather. Because of the number of privately owned airplanes, fixed-base operators, over 10,000 licensed pilots, and the ever-changing weather of Alaska, Alascom set up a data base accessible through our network that would provide up-to-the-minute weather reports. It is available to all with a PC or terminal at a reasonable price. The information available is the same that the FAA and NWS provides commercial pilots.

Our customer base is as varied as the services offered. We presently connect to the computers and terminals of the private sector as well as several departments in the government, both state and federal.

The operating characteristics of AlaskaNet are the same as those in Tymnet. All of our customer interfaces are matched to the specifications of their equipment.

At Alascom we think that we have a unique network mainly because of the size of the job to be done by a small amount of equipment. You also have to take into account that almost all communication (voice or data) has to use a satellite.

I am enclosing our rate schedule to show you what we have to offer.

If you have need for more information or have specific questions, please call me at 264-7388.

Sincerely,

Jim Chatleain
AlaskaNet Data Consultant

Enclosure

031/N1

DeCamp-Brown & Associates

Surveyors

Post Office Box 871985
Wasilla, Alaska 99687
Ph: 376-3206

DATE 12-29-88

TO Rep. Kay Brown
Alaska Satate Legislature
P.O. Box V
State Capitol
Junaeau, Alaska 99811

SUBJECT Proposal to establish a Geographic Information System (GIS) Technology Program at UAA

Dear Ms. Brown,

I am generally not in favor of the University of Alaska having a Geographic Information System Tech. program for any reason.

My Basic Objections are:

1) My experience is that the University is not a good place to have any computer based information system, as access by the general public would be as limited there as anywhere.

2) In my view, there are already standards existing for the kind of system you are writing about; why does UAA need to do this ?

3) Funds to implement this could be better spent expanding a 4 year Surveying Degree and include this tech. as a part of that.

4) Local governments such as cities and municipalities or boroughs could better use and provide access to geographic data.

5) Current "state-of-the-art" would allow establishment of such a system anywhere on earth without further research, why does UAA feel they need to augment the reasearch aspect of this technology?

Thank You for letting us comment on this proposal.

Ken DeCamp, P.L.S.

KENAI PENINSULA BOROUGH
144 N. BINKLEY • SOLDOTNA, ALASKA 99669
PHONE (907) 262-4441

DON GILMAN
MAYOR

December 27, 1988

Representative Kay Brown
P.O. Box 20-2661
Anchorage, Alaska 99520-2661

Subject: Proposal to establish a Geographic Information Technology Program

Dear ~~Representative~~ Kay Brown:

The Resource Planning Department of the Kenai Peninsula Borough hereby endorses the entire subject proposal.

We are confronted with similar issues with our G.I.S. and believe a Geographic Information Technology Program at the University of Alaska, Anchorage, would be a valuable resource for our use as well as others.

Most of our education and training has come from vendors and professional organizations which has been excellent. However, academic training is vital for a sound program and should be available in Alaska.

Please keep us advised on activities related to this proposal and how we may provide additional support.

Sincerely,

Don

Don Gilman
Mayor

DG:nj

cc: Dick Troeger, Acting Planning Director
Kenai Peninsula Borough

United States Department of Agriculture
Forest Service
Forestry Sciences Laboratory
P. O. Box 20909
Juneau, Alaska 99802-0909

Reply to: 1620

Date: December 27, 1988

Representative Kay Brown
Alaska State Legislature
P. O. Box 20-2661
Anchorage, AK 99520-2661

Dear Representative Brown:

I appreciate the opportunity to comment on the proposal to establish a Geographic Information Technology Program at the University of Alaska Anchorage.

I support the proposal and look forward to participating in the program. We already participate through an involvement with CONRIM. We operate a library as a part of our laboratory in Juneau. It is a member of the Alaska Library System. It houses some 35,000 documents and publications related to the natural resources of Alaska.

In Juneau we conduct research on the ecosystems of southeast Alaska. A great deal of information has been, and continues to be collected on the forest, wildlife, fish and related resources. The Pacific Northwest Experiment Station has similar research laboratories in Anchorage and Fairbanks who are also obtaining a great deal of information about the resources of Alaska. The proposed program will help tie this information into that available from other sources.

Please keep us informed as the proposed program progresses.

Sincerely,

JOHN W. HENLEY
Project Leader

cc:

Art Schipper
Verne LaBau
Skeeter Werner
Bill Meehan
Elbert Reed

MUNICIPALITY OF ANCHORAGE

Date: December 27, 1988

To : Representative Kay Brown

From: Carl Bergstrom, Systems Manager, Anchorage Dept. of Public Works

Subj: Proposal to Establish a Geographic Information Technology Program

After reading your well written proposal I have nothing to add in either substance or form other than my full support for the project. Even within the Municipality of Anchorage there is a lack of connectivity between the people , hardware and data structures that comprise the various geographic databases. Local education and training are needed to strengthen the job pool and stop the flow of qualified workers to the Outside who are seeking a more stable job environment. Good luck!

KETCHIKAN GATEWAY BOROUGH
344 Front Street
Ketchikan, Alaska 99901
(907) 225-6151

December 27, 1988

Representative Kay Brown
Post Office Box 20-2661
Anchorage, Alaska 99520

Dear Representative Brown:

Thank you for the opportunity to comment on the proposal to establish a Geographic Information Technology Program. I have been directly involved in the Borough's program to digitize its property maps. The enclosed brochure briefly explains the mapping program and the agencies involved. We are just beginning to start a GIS and the information that I have been exposed to by reading the various papers from the URISA conferences has been extremely helpful. However, I have found that much of the available material is aimed at the larger cities and towns, not much is published for the small villages that we have here in Alaska. I am using as a base for my GIS the information contained in the borough assessor's file. It has been extremely trying to get this department to change over to assessor's parcel numbers. They currently file by legal description. Once a adequate parcel numbering system is established, the property data can be related to that number on our digital maps. I would hope that the proposed program would address the establishment of statewide parcels numbering standards instead of the separate systems as we have currently.
I am also concerned about the funding for GIS systems. Many of the smaller towns in the state cannot fund a full GIS program without some sort of State assistance. I feel that a digitized parcel mapping system in conjunction with an assessor's property file would be the minimum requirement for a basic GIS. There are many low cost, relational databases and computerized mapping systems available but the training or educational opportunities are extremely limited. The smaller towns just do not have the money available to hire on personnel to do that kind of work. It would have to

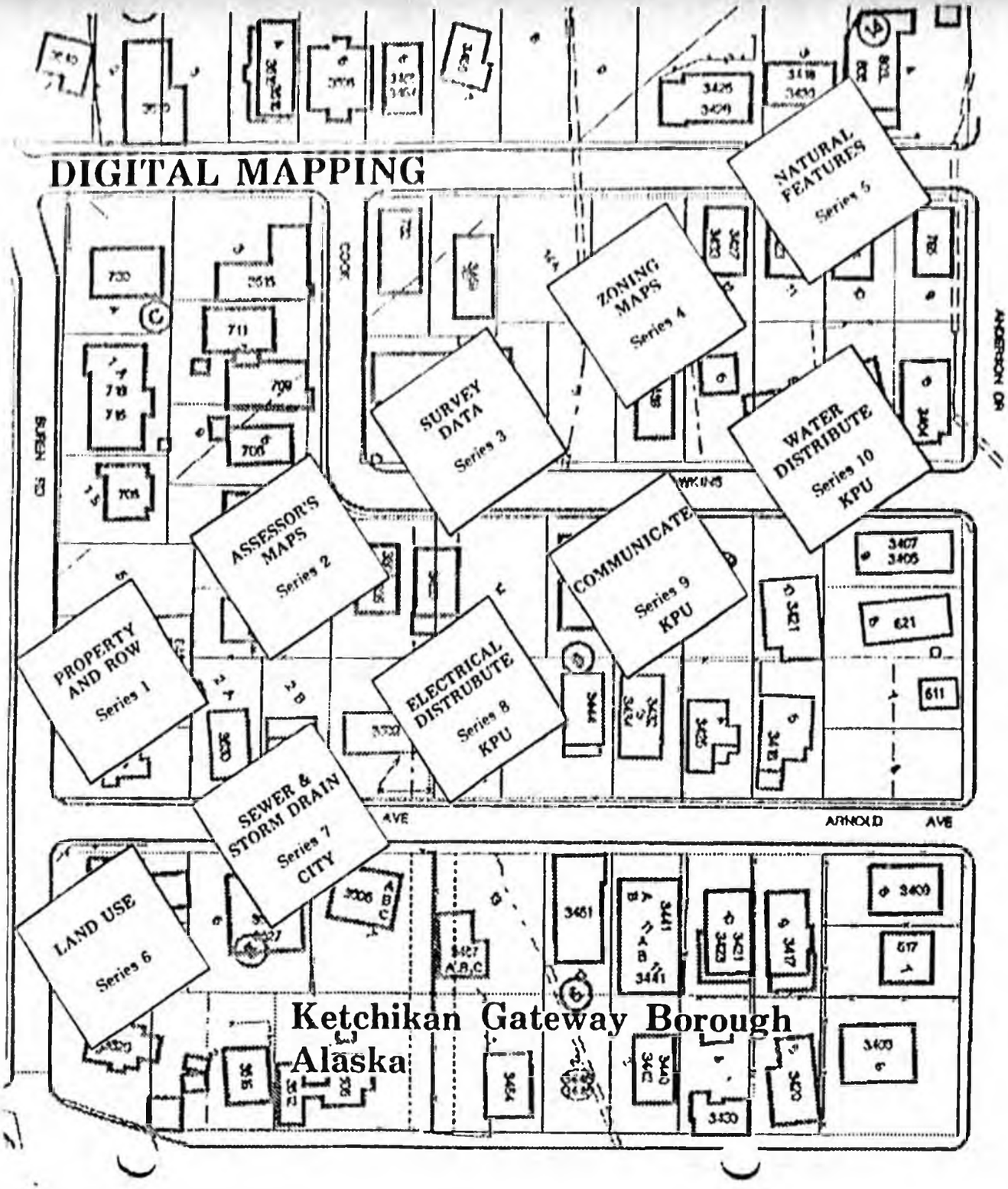
be handled by a state agency like Community and Regional Affairs or be bid out to a private organization. We need to arrive at practical standards and realistic funding in order to have an effective statewide GIS.

I can be reached at the Department of Planning and Community Development at 225-6151 if I can be of further assistance.

Sincerely,

John A. Robertson
Mapping & Information Technician

gisprog



DIGITAL MAPPING

The Digital Mapping Project is an ongoing mapping program of the Ketchikan Gateway Borough, the City of Ketchikan, and Ketchikan Public Utilities. It is a comprehensive visual display of property, topographic, and utility features of the Borough. All of the data has been placed into a digital computer, combined into the different map series, and drawn by electronic and mechanical methods. Updates on one or a number of data sets only affect the data shown on that particular map series. The maps need not be redrawn every time there is a change. The Department of Planning and Community Development has the lead in maintaining the maps with the goal of having a consistent and accurate map information system for use by individuals, public agencies and businesses. Standard map products of each of the map series shown may be purchased from the agencies involved. Special map products, like enlarge aerial photos, maps of different scale, or maps with other data combinations, etc., may be ordered through the Department of Planning and Community Development.

DIGITAL MAPPING PROGRAM

FOR FURTHER INFORMATION, CONTACT:
KETCHIKAN GATEWAY BOROUGH
Department of Planning and
Community Development
344 Front Street
Ketchikan, Alaska 99901
(907) 225-61[illegible]

December 30, 1988

The Honorable Kay Brown
P.O. Box V
State Capitol
Juneau, AK 99811

Dear Representative Brown:

Any step forward in implementing a statewide GIS is good.

As you are aware, data integration depends on an intimate knowledge of the various coordinate systems that data elements are tied to. e.g. rectangular public land surveys, latitude and longitude, state plane, UTM, etc.

To this end the surveying and mapping science program has included in its proposed four year curriculum, course work aimed at letting the surveyor bring his area of expertise to the task of developing an integrated GIS system.

I believe SMS 401, Land Information Systems, fits nicely within Item 4 under Goals and Objectives of your December 2 proposal.

Your support of Item 6a in Group 5 of the UAA budget would be greatly appreciated. I have enclosed a copy for your review.

Respectfully,

Norm Johnson, LS
Member, UAA Surveying and
Mapping Science Advisory Board

Matanuska-Susitna Borough

P.O. BOX 1608, PALMER, ALASKA 99645-1608 • PHONE 745-9642

ASSESSMENT DEPARTMENT

December 23, 1988

Representative Kay Brown
P. O. Box V
State Capitol
Juneau, AK. 99811

Dear Ms. Brown:

SUBJECT: GIS Technology Program

Since 1985 the Matanuska-Susitna Borough has developed a GIS system based on National Mapping Standards for control, parcelization, photogeodesy coverages and topography covering approximately 238 square miles of the borough. In addition, the control net has been expanded to capture data for the balance of the borough.

This effort has pioneered some relatively inexpensive methods of system development with the goal of engineering based accuracy. This results from very early project goals to serve the combined needs of various departments and avoid system duplication experienced by others.

We certainly support a GIS Technology Program which would address user education, shared database, and development of translation capability among various agencies. It is increasingly apparent that GIS, as a bridge between computer graphics and conventional data processing, will find application far beyond just geographic information, and that nearly as massive an educational effort will be required as we experienced in implementing EDP years ago. The Matanuska-Susitna Borough is at the threshold of expanding usage within our organization, thus it is very timely that educational opportunity be addressed. If we can be of assistance please feel free to contact me.

Sincerely,

Gary A. Lewis
MSB GIS Project Manager

ys

UNIVERSITY OF ALASKA, ANCHORAGE
3211 Providence Drive
Anchorage, Alaska 99508

DEPARTMENT OF JOURNALISM
AND PUBLIC COMMUNICATIONS
COLLEGE OF ARTS AND SCIENCES

dc 11, 1988

To: Representative Ray Brown

From: Larry Pearson
Assistant Professor
Department of Journalism and Public Communications

Re: Proposal to Establish a Geographic Information Technology Program

I have just received a copy of your proposal, and am pleased to point out issues which I think should be considered as it is refined.

As you know, other efforts are underway to improve the management of information in which the state has an interest. I think this proposal should be coordinated with those efforts.

I am thinking, in particular, of the Governor's Telecommunications Information Council established by law in June 1987 to give policy direction to all information activities within the state. That council is now looking at many, if not all, of the issues itemized in the first section of your proposal.

The proposed program appears to duplicate some of the goals and objectives of the Telecommunications Information Council. If it is to solve information management problems rather than add to them, it needs to coordinate its efforts with those of the Council and to consider how it can contribute to inter-agency efforts already underway to improve information management.

The Council will need the support of bodies such as the one you propose. It is already looking to the Information Systems Committee, UFMAC, AKIDC, and the House Special Committee on Telecommunications for such support. I am very much interested in this area, and have contributed to the discussion as a consultant to the House Special Committee on Telecommunications (I am speaking for myself rather than for any organization in this memo).

My concern is that projects focused on particular subject areas such as the one proposed could compete with and undermine the far more important effort to improve the management of ALL information handled by state government. It should be possible to develop the proposed program so that it avoids this pitfall.

I heartily support the aims of this project. Such programs are important and necessary; I'm simply asking that they take into account the larger context.

cc: Representative W.A. "Red" Boucher
Steve Plummer, staff aide, Telecommunications Information Council

United States Department of Agriculture
Soil Conservation Service
201 East 9th Avenue, Suite 300
Anchorage, Alaska 99501-3687
Telephone: (907) 271-2424

January 6, 1989

The Honorable Kay Brown
Alaska State Legislature
House of Representatives
P. O. Box 20-2661
Anchorage, Alaska 99520-2661

Re: Proposal to Establish a Geographic Information Technology Program

Dear Representative Brown:

We have reviewed this proposal and would like to lend our wholehearted support. This is an excellent idea and is needed in the community.

We do have a few comments we feel will strengthen such a program.

1. The primary goal should be a forum to open data sharing among all federal and state agencies as well as the University. Presently there is too much duplication of effort, incompatibility of systems and lack of communication. Your proposal recognizes these and other issues. A stronger emphasis should be given to this coordination among those who are already doing GIS work and working with the public.

2. The end result should be access to data by users and researchers, not the science of GIS itself. The goal should be "to yield maximum public benefit" as described in the proposal.

3. It should be kept open and flexible. All agencies must have equal access and weight in a GIS forum. If leadership goes solely to the University, we fear it will become a University research project and not be user oriented. If this happens, the whole concept will die. Cooperative agreements could be entered into with about a dozen federal and state agencies who are currently active in GIS. If the program proves productive, these agencies could potentially furnish some funding.

We appreciate the opportunity to review this proposal. Since we are heavily involved in GIS work with state and local agencies, we would like to be kept informed of progress on this proposal.

Sincerely,

James O. Southam, acting

Burton L. Clifford
State Conservationist

Alaska State Legislature
House

P.O. BOX V
State Capitol
Juneau, Alaska 99811

Official Business

P.S.- Meanwhile the horde of Phd's at UAF should look for more productive work.

TO: Interested Parties

FROM: Representative Kay Brown

DATE: December 2, 1988

SUBJ: Proposal to Establish a Geographic Information Technology Program

Attached for your information is a proposal to establish a Geographic Information Technology Program at the University of Alaska Anchorage.

I would appreciate any comments you may have regarding this proposal by January 5th. Please mail comments to P.O. Box 20-2661, Anchorage, Alaska 99520-2661. Alternatively, you can communicate your comments by phone to Eric Myers of my staff at 561-7627 before December 23rd.

Your interest and assistance with this effort is appreciated.

12/31/88 Note - How much will this cost? (to set up and operate annually). — 1-10-50 or $100 million.? Sounds like a luxury we can do without until another Prudhoe Bay oilfield is found in Alaska or the price of oil doubles from present rate.

Charlie Parker.
UAF '48, BS in CE.

Municipality of Anchorage

P. O. BOX 196650
ANCHORAGE, ALASKA 99519-6650
(907) 786-8160

TOM FINK
MAYOR

DEPARTMENT OF PUBLIC WORKS
(3500 East Tudor Road)

January 16, 1989

GIS Comments

Representative Kay Brown
P.O. Box V
State Capitol
Juneau, Alaska 99811

Dear Kay:

This letter contains notes and comments on your proposed legislation. These are my own opinions and do not represent URISA or the GIS Subcommittee of the DNR Survey and Mapping Advisory Group.

In the findings section I suggest some of the following information:

1) GIS is a critical tool for decision making, land management, and effective development of the State's natural resources.

2) The State has made a major financial commitment in various agencies and has developed several state-of-the-art systems. The systems and digital data play a key role in agency decision making.

3) Although the systems operate well on their own, there is a need for data exchange, integration and public access to the data. Specifically, digital status plat data in DNR needs to be made available to all interested agencies and the public for inclusion in their respective databases. This will reduce state-wide costs, and provide a common database for all agencies to use in their own systems.

4) Alaska is a leader in the GIS industry which is a rapidly growing field across the nation (Lower 48 firms regularly recruit our professionals). There is a pronounced need for trained personnel from technicians to professionals in state agencies and in the private sector. An educational program needs to be developed at UAA that will provide necessary education for Alaskans and will attract people from the Lower 48 in the near future.

The bill should include the following key points:

1) Language to the Telecommunications Information Council that directs them to ensure that standards are in place and programs established to allow digital exchange of status plat and other GIS data between state agencies and the private sector. This should be complete by the end of 1990.

2) Directive to DNR (and other agencies) that they will provide public access to their GIS and status plat data in industry standard data exchange formats by 1990. If this requires sacrificing some data converison projects, that is OK, because the benefits of data exchange outweigh the loss of delayed data conversion. Directive that the agencies will exchange data and cooperate to develop a common digital land base.

3) Establish a GIS (or GIT) program at UAA. I suggest hiring one person to be half-time faculty, half-time program director and one staff. Their goals are to: establish curriculum (and teach) in conjunction with current programs, help advise graduate students, facilitate short courses and workshops, and on an annual basis produce a directory of data directories and a summary report on the status of data sharing and exchange by state agencies and the public. These two positions should not be placed within an existing department (such as CADD drafting or survey), but be placed directly under a college dean or in a center.

4) Establish an Alaska Survey and Mapping Board. This group could help advise the UAA program on pertinent issues, but should not govern it, and they should also submit an annual report on the status of data exchange and mapping needs in the state.

I hope these ideas are helpful. Give me a call if you have any questions.

Sincerely,

Kimball Forrest
Manager
Technical Services

B/KF22/kjs

Alaska Society of Professional Land Surveyors

Please Reply to Correspondent

January 20, 1988

Representative Kay Brown
P.O. Box 7
State Capitol
Juneau, AK 99811

Re: GIS Program

Dear Representative Brown:

Our Society reviewed with considerable interest your proposal to establish a graphic information program at the University of Alaska. We feel as you do that a centralized system is badly needed in our state. However, we recommend caution in moving too rapidly.

A considerable amount of research and planning is required if a GIS Program is going to be effective. Currently there are more than a dozen geographic computer systems operating in the state including at least six in state government. Millions of public dollars have been spent on these systems with very little public benefit received in return. Without the proper planning your project could easily become part of the problem instead of the solution.

Just a few of the many questions that need to be answered before yet another system is established are listed below:

- Is the University the best place for the program, or is it more cost effective to restructure one of the state's existing systems?
- How will funding be structured to ensure perpetuation? It would be senseless to start a project of this type which could be cut from the next budget.
- What will the mechanics be for tying the system to the real world? GIS is very simply a mapping function and to be useful it has to be based on established survey positions.
- How will this information be made available to the public?

These and numerous other questions have yet to be answered before a program can be effective. Don't be known as the general who charged into battle with all his troops -- in the wrong direction.

The Alaska surveying and mapping advisory board has established a subcommittee to address the GIS issue. We urge you and your staff to work closely with group in planning this project.

Sincerely,

Don Fordney
President, ASPLS

cc: J. Oswald, ACSM
M. Shasy, ASPRS
K. Korrest, URISA

To: Kay Brown

From: Lloyd Eggan

Date: January 18, 1988

Subj: Draft Geographic Information Technology Legislation

Herein are some comments regarding the draft legislation, relating to the version you sent to Doug Hutter & Kimball Correst on January 8.

1. The relationship between the program and the Telecommunications Information Council does need to be clarified. I think generally the roles are complementary, with the program assisting the council by helping to clarify and focus input from, and the needs of, the portion of the user community using and needing geographic information technologies.

2. The relationship between the program and other state agencies and programs also needs clarification. For example, it is not at all clear how a University program could 'adopt standards', or what that could mean. It would not seem that such a program should set standards. It could help develop, inform about, promote, etc.

3. The emphasis of the program should be primarily on application of geographic information technologies. The program is aimed at applications, rather than 'pure' development of the technology. Any research the program engages in would be in the area of relating technologies to specific applications, or applications areas.

4. To do this (i.e., 3.), two specializations are needed, and I see the major orientations of the two positions identified as meeting these as follows:

- The director has a stong user, applications, and 'coordinative' emphasis. Much attention needs to be paid to the organizational aspect of technology use and management. There is also the need for management of the overall programs and activities of this program itself.
- The geographic information systems analyst needs to be strong in three areas: ability to analyze user projects and requirements, knowledge and facility with the technology, and ability to 'do the stuff' and assist others in actual use of geographic information technology tools.

These emphases reflect two of the major things we know about use of this technology:

- Successful uses involve a lot of organizational aspects;
- Successful uses require substantial, continual technical support.

5. Various academic departments and program provide for education, development, and research in various aspects of the technology itself. Computer science, various sorts of engineering, mathematics, surveying, are all disciplines that provide aspects of geographic information technologies. The overall application of the resulting technology is the focus of this program. Therefore, the program should ideally be located outside one of these more specialized, and hence limited, disciplines.

6. The emphasis within the University academic arena is also a supporting application of the technology. This program should help provide, and provide access to, geographic information technologies for the broad range of possible applications within other academic programs. A few introductory courses should be offered (and some already are). For advanced students, the primary emphasis of this program would be support and assistance in the use of geographic information technologies in the student's application area. The emphasis here should not be in providing degree programs in GIS, or some such. The emphasis is on providing an a resource that can contribute to, and be used by, a wide variety of degree programs.

7. Program staff could, of course, teach courses in various topics relating to geographic technology, and uses thereof. The establishment of a separate degree program is not the initial goal, however.

Thank you for this opportunity to comment. I would appreciate your keeping me informed as this process continues.

Lloyd Eggan
6731 Crooked tree Dr.
Anchorage, AK 99516

Alaska Society of Professional Land Surveyors

AFFILIATE OF AMERICAN CONGRESS OF SURVEYING AND MAPPING
MEMBER OF WESTERN FEDERATION OF PROFESSIONAL LAND SURVEYORS

PATRICK H. KALEN, PLS
1041 Chena Ridge Rd.
Fairbanks, AK 99709
(907) 479-2628/2656

January 25, 1989

Lennie Gorsuch, Commissioner
Department of Natural Resources
Pouch M
Juneau, AK 99811

Subject: Establishment of a State Surveying and Mapping Authority.

Dear Lennie:

As a private land surveyor, I have been working with your department, other state agencies, and other individuals from the private sector on an informal advisory board established by your predecessor at the behest of the surveying and mapping industry. This board has been working toward the creation of a state surveying and mapping authority. The idea of a state surveying and mapping authority has been around since 1980 or so in various forms, and took on a specific focus when Judy Brady appointed a Surveying and Mapping Advisory Board, charging us with reviewing the concept in detail. I am the board appointment representing the Alaska Society of Professional Land Surveyors (ASPLS).

We have discussed pros and cons of establishing a state survey authority at length, both on the board and among ourselves. In favor of the concept is the idea that we could save the state money by coordinating mapping requests for state projects, eliminating costly duplication of effort. We would also diminish future survey and litigation costs resulting from bogus work and "law office" metes and bounds deed transactions, thus providing for clear title, and offer some measure of protection to the public by assuring that some minimum standards are maintained. Monumentation is currently almost unprotected (although an ASPLS sponsored monument records/survey records law passed in 1985 started in that direction, it is weak in the area of enforcement or penalty provisions). The state should be considered the "owner" of public land corners, as well as the source for survey information, maps and records, thereby helping to perpetuate boundaries. Review authority, enforcement of the record of surveys and monument records statute and someone to react to the destruction/obliteration of monument is needed. Finally, a rational, usable conversion to NAD 83 could be achieved if the state took the lead and developed a computerized reference source of control monumentation, assimilating new data as satellite surveys are extended across the state.

January 25, 1989

Representative Kay Brown
P.O. Box V
Juneau, AK 99811

File: 10-700
Subj: Draft Proposal on an "Alaska Geographic Information Technology Program"

Dear Representative Brown:

The Survey and Mapping Advisory Board has asked me to express the Board's appreciation for your November 30th presentation to the Board and the opportunity you have afforded us to discuss the concept presented. The Board supports the general concept of an Alaska Geographic Technology Program but feels the total proposal is too encompassing and assigns some functions to the program that would be better handled elsewhere. A primary example of this would be the cataloging function which will be discussed in more detail later.

The Board has been set up on the premise that there are certain things that need to be accomplished to protect the integrity of the land record system and the subsequent chain of title and that cost savings can be achieved through review of the GIS activity in the State and coordination of mapping and related information gathering. To that end Board discussions have centered on four areas:

1) Academic functions should be segregated from service functions (i.e. teaching versus cataloging and indexing).
2) If the State is to avoid repeating the past mistakes of creating data banks of information that cannot be spatially related with any degree of certainty and that cannot be layered because of varying coordinate bases, we have got to get the surveyors and mappers back into the forefront of the process.
3) There is need for an ongoing board to review whatever programs are created as well as existing programs involved in surveying, mapping and GIS.

and finally,

4) Are the entities discussed and locations proposed best suited to accomplish the goals of the board and yourself.

Within these parameters the Board has directed me to send you the accompanying discussion paper and recommended modifications to your draft. The society representatives on the Board feel the recommended modifications would have the full support of the societies and I believe the Board would also give it's undivided support.

The papers presented are not intended to indicate a resolve on the part of the Board, but to bring to the forefront the discussions we have had and the sense of the Board. We would welcome the opportunity to discuss these recommendations with you further at your convenience.

Sincerely,

Robert G. Schweitzer

for Sam Best, Vice Chairman
Survey & Mapping Advisory Board

SB:leh

DISCUSSION

Introduction:

The proposal by Representative Kay Brown (hereinafter called the Brown proposal) for an Alaska Geographic Information Technology Program within the University of Alaska, Anchorage (hereinafter called UAA GITP) is meritorious in that it recognizes the current lack of focus on the integration of geographic information among and between agencies, users and research institutions.

Information Availability

It is unclear, but interpreted that the proposed UAA GITP would not become a central repository for all GIS information within the state. It appears the new center for GIS data would provide the knowledge of the availability of such data through a bi-annual directory, quarterly or bi-monthly information review journal. Thus users, in desiring to acquire such GIS data, would be directed to the actual originating source for acquisition. We concur with this approach for it is neither cost nor time efficient to maintain duplicate files of GIS information in that such information is generally undergoing constant revision, and can be expeditiously transmitted through digital means regardless of geographic separation. It is also unclear what standards would be used to catalog this information or who would actually conduct both the initial cataloging and the ongoing cataloging.

Initial research by the Board indicates the top three choices for this function, after polling public agencies to be DNR, NCIC, and the State Library. The Board feels DNR is neither equipped nor mandated for the function and, NCIC will assist us but is not interested in many of materials we will be cataloging. As an institution the Alaska State Library (ASL) is established by statute for the collection, classification, storage, care and dissemination of <u>state and federal</u> information. They already have both a mandate and an institutional and administrative structure ready to assume this responsibility. They for example have an extensive inventory of historic maps and geographic information. Indeed, it would be argued that under AS 14.56.120 each agency is currently obligated to use the ASL to fulfill the role of making people aware of the GIS information in the public domain. Paragraph (b) of this section states:

> "Each state agency shall notify the center of the creation of all data published or compiled by or for it at public expense and provide for its accessibility through the center, unless the data is protected by the constitutional right to privacy."

Further, the ASL could utilize a nationally recognized system for cataloging geographic information (recently established by the American Library Association). Their catalog is already published both in on-line form via the Western Library Network and in digital form via quarterly CD-ROM form. Virtually all public and educational libraries within the state can assist users in accessing this catalog. We believe this method of providing awareness of information is cost effective and utilizes institutional frameworks that are already in place.

While the DNR Survey and Mapping Advisory Board does not feel qualified to evaluate the program resources required to implement the overall UAA GITP, we did note that there appears to be insufficient resources to cope with the substantial backlog of cataloging that must occur in the beginning and the on-going cataloging required of this endeavor. Neither of the staff positions seem appropriate to this important, but highly technical and detailed kind of work. Thus one or more cataloger positions seems necessary under either the Brown proposal or the suggestions contained herein.

Standards

The issue of standards is one of obvious controversy. While it's easy to get a group of people to agree on the desirability of standardization it is virtually impossible to decide upon and follow a singular standard without significant top-down supervision. The resistance to a university component setting standards for executive branch agencies would be considerable and the resulting friction would, in our opinion, mire this new program before it had a chance to succeed. Nor is it necessary for a top down standard setting and enforcement function given the trend toward data connectivity. While existing agencies creating geographic information utilize a plethora of computing hardware, software and protocols, most, but not all of the incompatibilities can be overcome with conversion techniques. Further, as each agency is on their own cycle of hardware and software acquisition, improvement, data conversion and the like, the ultimate standard selected will always be outdated for the majority of users.

As an alternative we would like to encourage the notion of data interchangability and accessibility. This will be more fruitful in our view and will avoid the trip of having the UAA GITP becoming controversial from the start.

We recognize that the Brown proposal, in discussing standards, uses the words in a permissive sense rather than mandatory language. However, even model standards will be controversial. If data can be exchanged, and the involved users can convert data from another source to their system, the issue of standards is moot. This is clearly the trend in virtually all GIS technology today, except for the most unsophisticated of data bases (in which case the interchange is of dubious value). The Board's subcommittee on GIS has already stumbled over the issue of standards and is currently trying to define the term itself and the parameters we feel it should encompass.

The following rewrite of draft program proposal represents the Boards attempt to accomplish four areas referenced in our transmittal letter and the preceding discussion.

SMAB RECOMMENDED REVIEW OF YOUR PAPER WITH STANDARD DELETION AND ADDITION FORMAT

A. ISSUES

Traditionally, geographic information has been stored and displayed on maps and other paper cartographic products. More recently, computer-based systems, known as geographic information systems (GIS), have enabled users to store and selectively retrieve mapping [GEOGRAPHIC] data in customized formats suited to their management needs. Geographic Information Systems have been created [USED] by the State of Alaska since the late 1970's as a tool for government decision-making. Many millions of public dollars have been spent by state, local and federal agencies in Alaska on geographic information systems and data bases, but these efforts have not been coordinated for maximum utility. More than twenty geographic computer systems are operating or being built in the public and private sectors; the state has six systems within three state agencies. A major part of the problem is brought about because we have lost sight of the mapping function as an integral part of GIS.

Current issues concerning the use of GIS technology are:

-- GIS is a mapping function based on established surveyed positions
-- resources are fragmented and sometimes dissimilar
-- budget reductions have cut many services
-- trained staff have left the state
-- data bases are not being adequately maintained
-- integrating data is a problem
-- public access to data is limited
-- management-level support is lacking
-- users and managers need improved education and training
-- Alaska lacks a comprehensive GIS educational program

B. STRATEGY

The State of Alaska recognizes that information is a valuable resource that should be managed to yield maximum public benefit. Geographic information, in particular, is expensive and multiple-use in nature. The strategy for managing these resources involves:

-- linking them to known positions using established published geographic coordinates

-- planning by individual state agencies to manage information systems for their respective operational needs;

-- increasing public access to information on a broad scale, which is beyond the scope of individual agencies;

-- facilitating information sharing and transfer as a goal of the State of Alaska; and

-- empanelling a state survey and mapping advisory board to keep abreast of current GIS technology and maximize benefit of work in other states and by the federal government

-- creating a Geographic Information Technology Program at the University of Alaska Anchorage.

C. GOALS AND OBJECTIVES

1. Goal

Enhance the use of geographic information systems and related information in solving Alaskan problems in managing Alaska's resources, and establish a strategic direction for the State of Alaska's role in achieving this goal.

2. Objectives

[A] b. To improve the utility of, and access to, mapping [GEOGRAPHIC] information in the State of Alaska.

[B] a. To apply information to foster the development of Alaska's resources.

c. To encourage and facilitate coordination and sharing of digital geographic information among all agencies with an interest in Alaska.

[D] e. To support the operational needs of state agencies and to facilitate better management and policy decisions.

[E] f. To assist state agencies in planning for information systems which meet their specific needs and are consistent with the strategic direction of the State.

[F] d. To provide leadership in the creation and maintenance of integrated [GEOGRAPHIC INFORMATION] automated mapping systems and cooperative data bases, and in the establishment of standards and procedures for data exchange.

[G] h. To create educational and training opportunities on geographic information technology and applications within Alaska.

[H] g. To further applied research on geographic information technology.

D. THE PROGRAM

[1. PROVIDE TECHNICAL ADVICE AND ASSISTANCE.

A. ADVISE AND ASSIST ON THE IMPLEMENTATION, MANAGEMENT AND IMPROVEMENT OF LAND RECORDS AND GEOGRAPHIC INFORMATION SYSTEMS UPON THE REQUEST OF A STATE AGENCY OR LOCAL GOVERNING BODY.

B. TO THE EXTENT FEASIBLE, PROVIDE TECHNICAL AND USER ASSISTANCE TO THE PUBLIC.]

[2] 1. Facilitate information transfer through use of the Alaska State Library (ASL). Under AS 14.56.120 each agency is currently obligated to use the ASL to fulfill the role of making people aware of the GIS information in the public domain. Paragraph (b) of this sections states:

> "Each state agency shall notify the center of the creation of all data published or compiled by or for it at public expense and provide for its accessibility through the center, unless the data is protected by the contitutional right to privacy..."

a. Provide information on the availability of federal, state, local and other sources of mapping activities and products, aerial photographs, digital data bases, surveying and land records, natural resources and other related data.

b. Maintain a [COMPILE AND PUBLISH A BI-ANNUAL] directory of Alaska's geographic/cartographic information, data and capabilities.

[c. PUBLISH A QUARTERLY OR BI-MONTHLY INFORMATION REVIEW JOURNAL PROVIDING UPDATES ABOUT INFORMATION AND INFORMATION SOURCES IN ALASKA.]

d. Assist agencies in developing [POLICIES, PROCEDURES AND] capabilities for public access to data.

e. Analyze options for transferring data among agencies and assist in developing ad hoc and ongoing data transfer mechanisms.

[3] 2. Develop standards.

a. The Survey and Mapping Advisory Board in consultation with affected State agencies shall [D]develop and recommend model standards and requirements with regard to indexing, documentation, mapping, data exchange and other aspects of land records and geographic information systems [IN CONSULTATION WITH AFFECTED STATE AGENCIES AND A SURVEY AND MAPPING ADVISORY BOARD].

b. Promote access to and exchange of, federal and other digital data banks through standards which are compatible with those of the federal government.

[4] 3. Expand education and training through the University of Alaska.

[A] b. Develop and administer land records and geographic information system training workshops, seminars and continuing education for government employees and other professionals. Draw upon the GIS expertise available in the Anchorage area from the public and private sectors.

[B] a. Develop and expand the University's GIS curriculum within the newly created Surveying and Mapping BS program. [DRAW UPON THE GIS EXPERTISE AVAILABLE IN THE ANCHORAGE AREA FROM THE PUBLIC AND PRIVATE SECTORS.] Include an undergraduate and masters degree program.

c. Promote the use of GIS technologies in other relevant University curricula.

[5] 4. Conduct applied research.

[A. CONDUCT RESEARCH PROJECTS FOR FEDERAL, STATE AND LOCAL GOVERNMENTS TO APPLY GIS AND RELATED TECHNOLOGIES TO ALASKAN ISSUES AND PROBLEMS.]

b. Conduct research projects to enhance GIS and related technologies.

c. Establish a working relationship with the new National Science Foundation- funded National Center for Geographic Information and Analysis.

[6] 5. Recommend improvements in information resources management.

a. Recommend to the Alaska Legislature and Governor ways of coordinating, consolidating and improving mapping and GIS-related services and programs in state agencies and the University.

E. IMPLEMENTATION

1. Requirements.

a. Fund one [TWO] new position[S]: under the Survey and Mapping Sciences Program at UAA to conduct GIS functions [THE PROGRAM DIRECTOR AND A SENIOR GIS SYSTEMS ANALYST.] Individual shall be at a PHD level in Mapping and Information Management.

[B. PROVIDE START-UP COSTS FOR TRAINING STAFF IN GIS APPLICATIONS AND TECHNOLOGY.]

c. Provide funds for travel and subsistence for the Survey and Mapping Advisory Board [PROVIDE INITIAL FUNDS FOR PUBLICATION DEVELOPMENT.]

d. Fund computer resources for information transfer [ACADEMIC], data conversion [AND INFORMATION TRANSFER] and academic purposes.

2. Sources.

a. The Legislature provides a mandate and funding [SEED MONEY].

b. The University provides a center for program implementation under the Survey and Mapping Sciences degree program with a focus on interaction within the community. A concentration on solving Alaskan issues and a commitment to the development of education excellence.

c. Seek a cooperative agreement with the US Geological Survey to use their GIS and remote sensing and related cartographic facilities and expertise in Anchorage, linking them with the University.

d. Seek grants from the newly created Alaska Science and Technology Foundation for specific projects that apply GIS technology to solving Alaska problems.

e. Seek grants from foundations and non-profit organizations for GIS-related work.

[F. SEEK REIMBURSABLE SERVICE AGREEMENTS WITH AGENCIES FOR RENDERING GIS SERVICES.]

[G. USE SUBSCRIPTION FEES AND PAID ADVERTISING IN PUBLICATIONS TO RECOVER PRODUCTION AND OPERATIONAL COSTS.]

STATEMENT TO
THE HOUSE COMMITTEE ON HEALTH, EDUCATION, AND SOCIAL SERVICES
ON HOUSE BILLS 152 and 153

BY

Barbara Sokolov
University of Alaska Anchorage

My name is Barbara Sokolov. I am testifying on behalf of the University of Alaska Anchorage for House Bill 152 and the accompanying House Bill 153.

The development of the proposed geographic information technology program is welcomed by UAA because it supports our academic mission as well as our renewed commitment of service to the people of the state. These bills expand two existing courses of study at UAA; the current two-year associates degree in surveying and the fledgling four-year program in surveying and mapping science. The bills would provide for training of individuals in the development, maintenance, and utilization of geographic information technology. HB 152 further mandates a public information role relevant to statewide GIS activity, and this outreach aspect falls well within the traditional role of UAA, a land-grant university. These bills create a single focus for information on geographic information systems, assuring that any public or private entity in need of such services will be directed from it to the most appropriate, cost-effective source of help. This is a laudable goal from UAA's perspective and of itself would be sufficient to garner our support. In conclusion, UAA stands in support of House Bill 152 and its companion House Bill 153 in recognition of their potential for supporting education and for providing public outreach services, the chief roles of any land-grant institution.

11K/015(1)

STATE OF ALASKA
THE LEGISLATURE

POUCH Y · STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

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Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

H. HESS 3-15-89

H. HESS 2-16-89

H. HESS 3-28-89

6-0430E
Bradley
3/23/89

Original sponsors: Brown and Ellis

IN THE HOUSE

CS FOR HOUSE BILL NO. 152 ( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act establishing a geographic information technology program at the University of Alaska Anchorage; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. LEGISLATIVE FINDINGS. The legislature finds that

(1) geographic information systems are useful tools for managing vast quantities of geographic data essential to natural resources development, environmental assessment, urban and regional planning, engineering design and drafting, land records management, and other activities of the state and local governments;

(2) the effective use of geographic information technology has the potential to provide substantial benefits to the state and local governments through efficiencies from automation, increased capabilities for analysis, and the provision of better data for decision making;

(3) the state and local governments have made major financial investments in geographic information systems and data bases, but these efforts have not been coordinated for maximum utility;

(4) a need exists to increase public and agency access to digital geographic information, and to increase the capability for data integration and exchange among agencies;

(5) a demand exists in state and local agencies and private industry for trained technicians and professionals in the field of geographic information technology;

(6) the establishment of a geographic information technology

program at the University of Alaska Anchorage will provide educational and local employment opportunities for Alaskans in a rapidly growing, multidisciplinary field that has many applications in the state and will provide state and local agencies and the public with access to advances in geographic information technology;

(7) the establishment of a geographic information technology program at the University of Alaska Anchorage will enhance the curricula in a number of program areas throughout the university system, including surveying, the natural sciences, civil and mineral engineering, geography, computer sciences, agriculture and land resources management, fisheries, and ocean sciences;

(8) the establishment of a geographic information technology program at the University of Alaska Anchorage is consistent with the university's missions of conducting and sponsoring research in applied technologies, and offering relevant educational opportunities in growth fields, and will assist the university in its efforts to analyze global environmental problems such as arctic haze and ozone depletion.

* Sec. 2. AS 14.40 is amended by adding a new section to read:

Sec. 14.40.083. ESTABLISHMENT OF GEOGRAPHIC INFORMATION TECHNOLOGY PROGRAM AT UNIVERSITY OF ALASKA ANCHORAGE. The University of Alaska shall establish a geographic information technology program at the University of Alaska Anchorage. The geographic information technology program may

(1) develop and expand the geographic information system curriculum of the University of Alaska at its various campuses, including the possible establishment of undergraduate and masters programs;

(2) develop and sponsor land record and geographic information system training workshops and continuing education seminars;

(3) undertake applied research projects that apply geographic information technology to state issues and problems;

(4) provide information on the availability of federal, state, municipal, and other sources of geographic information, including aerial photography and digital data bases related to surveying and land records, natural resource inventories, and related data;

(5) prepare and publish on a regular basis information relating to automated geographic and cartographic information, data, and capabilities;

(6) assist state agencies and municipalities in the development of policies, procedures, and capabilities for public access to automated geographic information;

(7) recommend, in consultation with the Telecommunications Information Council and affected state and local agencies and advisory boards, model standards and strategies relating to the implementation, indexing, documentation, mapping, data exchange, and other aspects of land records management and geographic information system development;

(8) report annually to the legislature and the Telecommunications Information Council regarding the coordination, consolidation, and improvement of mapping and geographic information system services and programs in the state.

* Sec. 3. AS 14.40.083 is repealed.

* Sec. 4. Section 3 of this Act takes effect July 1, 1994.

* Sec. 5. Except for sec. 3 of this Act, this Act takes effect July 1, 1989.