

**2007 – 2008 NSDI Cooperative Agreements Program  
Category 3: Fifty States Initiative  
South Dakota Cooperative Cadastral Initiative  
FINAL REPORT**

**Report Date:** August 29, 2008

**Agreement No:** 07HQAG0099

**Project Title:** South Dakota Cooperative Cadastral Initiative  
FINAL REPORT

**Organization:** Black Hills Digital Mapping Association  
PO Box 9612  
Rapid City, SD 57709-9612  
Organization Web Address: <http://www.bhdma.org>

**Principal Investigator:** Jenifer Sorensen, Grant Administrator  
(605) 641-2581  
[jensorensen@rushmore.com](mailto:jensorensen@rushmore.com)

**Collaborating Organizations:**

**South Dakota Bureau of Information and Telecommunications**  
Erik Nelson, State GIS Coordinator  
Foss Building  
523 E. Capitol Avenue  
Pierre, SD 57501  
(605) 773-4750  
<http://www.state.sd.us/bit/erik.nelson@state.sd.us>

**South Dakota Association of Assessing Officers**  
Darlene Piekkola, 2007-2008 President  
90 Sherman Street  
Deadwood, SD 57732  
<http://www.sdaao.org>  
[dpiekkol@lawrence.sd.us](mailto:dpiekkol@lawrence.sd.us)

**South Dakota Geological Survey**  
Tim Cowman, Natural Resources Administrator  
Akeley-Lawrence Science Center, USD  
414 East Clark Street  
Vermillion, SD 57069-2390  
(605) 677-5227  
<http://www.state.sd.us/denr/tcowman@usd.edu>

**City of Sioux Falls Administration/GIS**

Steven Van Aartsen, GIS Supervisor

224 West Ninth Street

Sioux Falls, SD 57104-6407

(605) 367-8600

<http://www.siouxfalls.org/>[vanaartsen@siouxfalls.org](mailto:vanaartsen@siouxfalls.org)**City of Rapid City – Growth Management Dept.**

Don Jarvinen, GIS Analyst

300 Sixth Street

Rapid City, SD 57701

(605) 394-4120

<http://www.rcgov.org>[don.jarvinen@rcgov.org](mailto:don.jarvinen@rcgov.org)**Project Narrative:**

The primary goal of the South Dakota Cooperative Cadastral Initiative was the production of a cadastral strategic and business plan for the State of South Dakota. The Black Hills Digital Mapping Association was the lead organization to facilitate the initiative and was the recipient of the 2007-2008 CAP grant. Assisting in this project were five other organizations: the State of South Dakota Bureau of Information and Telecommunications, the South Dakota Association of Assessing Officers, the Pennington County/Rapid City GIS Division, the Sioux Falls GIS, and the South Dakota Geological Survey.

The three main objectives of the cadastral initiative, as outlined in the grant application were:

1. Organize and conduct a two-day conference with a cadastral theme to provide educational opportunities and a forum for discussion of the development of a statewide cadastre.
2. Establish a cadastral committee composed of volunteers to draft and finalize cadastral strategic and business plan.
3. Conduct several meetings throughout the state to provide further opportunity for stakeholders to learn about the contents of the cadastral strategic and business plan to provide organizations the opportunity to formally endorse the plan through letters of commitment.

**Summary of Project Activities:**

A two-day cadastral conference was held in Rapid City, South Dakota, on September 18 and 19, 2007. The conference was a success and achieved the goal of educating the South Dakota GIS Community about the need for a statewide cadastral digital data layer. Preparation and planning for the conference began in April 2007.

As a way to advertise the upcoming conference, two training sessions on *Development of a Digital Statewide Cadastre* were presented. Attendance at both meetings was high and helped to spread the word about the kickoff of the statewide cadastral initiative in the fall of 2007:

- Jenny Sorensen and Dan Falbo, Black Hills Digital Mapping Association board members, presented a 90 minute talk at the North Central Regional Association of Assessing Officers annual conference in Sioux Falls, South Dakota on August 26, 2007.
- On August 23, 2007, the Black Hills Digital Mapping Association and Pro-West and Associates of Walker, MN, helped sponsor a day long GIS workshop for the South Dakota Association of Assessing Officers. Attendance at both meetings was high and helped to spread the word about the kickoff of the statewide cadastral initiative in September.

The conference agenda was organized around the idea of showing attendees the business case for a South Dakota digital parcel data layer. Speakers and presentations that helped to achieve this goal included:

- Stu Kirkpatrick, MT State GIS Coordinator, spoke on how Montana approached the creation of a statewide, multipurpose cadastre and who uses the data now.
- Bob Ader of the BLM talked about making the business case for a cadastral layer and discussed how the GCDB can be a tool for assisting in the process.
- Dennis Kron of Stearns County, Minnesota, spoke about how a county goes about managing digital land information and what value such data has for a county.
- Jeanne Foust of ESRI spoke on cadastral standards and interoperability considerations.
- Berne Jackson, a Senior GIS Analyst for the Coeur d'Alene Tribe in Idaho talked about how the tribe has developed and continues to maintain parcel data for all property within tribal boundaries and how it coordinates with two counties.
- Chris Liske of ESRI spoke on the technical issue of designing, editing, and maintaining a cadastral data layer.
- Hank Garie of GeoAnalytics talked about how geographic resources are a strategic asset and furthered the discussion of the business needs for cadastral data.
- David Cowen, a geography professor at USC and author of numerous publications on cadastral data development, discussed in detail the vision for national land parcel data and why it is important.
- Otto Doll, South Dakota CIO, spoke on the state's perspective of the cadastral initiative and opened the floor to questions that provided a lively discussion on the importance of a statewide cadastre and how to get there.
- Two concurrent sessions were held on the second day, with one general interest track and one cadastral track. In the cadastral track, speakers presented on local government cadastrals in South Dakota, how cadastral data is used with emergency management, and how cadastral data is used for wildland fire management.
- In addition to speakers, there was a panel discussion of speakers on cadastral experiences from national, state, tribal, and local perspectives, and a facilitated discussion on South Dakota cadastral experiences and perspectives.

Directly following the conference, a day and a half meeting of the cadastral committee was held over September 20 – 21, 2007. This committee was established as a volunteer group to which all interested parties were invited. A facilitator (Cheryl Chapman of the Matrix Consulting Group, Rapid City, South Dakota) facilitated the meeting. The goal of the meeting was to draft a cadastral strategic and business plan. A reasonable set of tasks were outlined in the strategic and business plan that all involved felt were achievable in the established time frame of three years.

Considerable progress toward compiling a workable cadastral business and strategic plan was made during the day and a half meeting. About 15 people committed to the efforts of the committee and attended the meeting. Organizations represented included:

- Black Hills Digital Mapping Association
- BLM
- ESRI
- Schneider Corporation
- The Sidwell Company
- Pro-West and Associates, Inc.
- FourFront Design, Inc.
- City of Sioux Falls GIS
- Rosebud Sioux Tribe
- Rapid City GIS
- South Dakota BIT
- Brown County GIS
- USGS
- Lower Brule Sioux Tribe
- Meade County GIS
- Lawrence County GIS

Three products were produced from the meeting:

- Draft vision statement for the cadastral committee
- SWOT analysis (strengths, weaknesses, opportunities, and threats) for the cadastral initiative
- Draft cadastral strategic and business plan for 2007 – 2009

Jenifer Sorensen of the Black Hills Digital Mapping Association then attended the NSGIC conference in Madison, Wisconsin on September 24, 2007 and presented an update on the CAP grant at the Fifty States Initiative meeting.

The cadastral committee is currently an ad hoc committee composed of dedicated volunteers. An effort is being made to formally organize the committee as a governor-appointed council.

Every effort has been made to make the activities of the cadastral committee transparent and to include all interested parties. The cadastral committee meets regularly and has established two subcommittees – one to assist in the process of conducting a statewide parcel data inventory and a

second to compile case studies in South Dakota that show how the business needs of various agencies are being met using digital parcel data. A website for the South Dakota Cadastral Initiative has been set up on myUSGS ([https://my.usgs.gov/josso/signon/login.do?josso\\_back\\_to=https://my.usgs.gov/home/josso\\_security\\_check](https://my.usgs.gov/josso/signon/login.do?josso_back_to=https://my.usgs.gov/home/josso_security_check)) and at <http://www.openplans.org/projects/south-dakota-cadastral-initiative/project-home>. Meeting minutes and other materials related to the South Dakota Cadastral Initiative can be viewed by the committee members at these sites – the second website is also viewable by the public.

In order to continue to educate the GIS community on the progress of the cadastral committee's activities, the cadastral committee has presented and will continue to present at pertinent meetings that are held periodically in the state by various organizations. On May 21, 2008, Jenifer Sorensen, BHDMA board member, presented an update on the statewide cadastral initiative at the South Dakota Association of Assessing Officers in Deadwood, South Dakota. Two additional presentations are currently scheduled: a presentation will be given by Jenifer Sorensen and Annette Theroux (ProWest & Associates, Inc.) on September 25, 2008 at the Black Hills Digital Mapping Association one-day conference, and a similar update will be presented at the South Dakota Society of Professional Land Surveyors annual conference in January 2009.

As an added objective under the grant, the statewide cadastral initiative, through the efforts of the cadastral committee, have contracted to have ProWest & Associates, Inc. complete a digital parcel data survey for the 66 counties in the state (including cities with GIS) and the tribal organizations. This objective was not originally included in the grant application, but was deemed of high importance by the cadastral committee. The data collection for the survey is scheduled to be completed before the end of 2008.

### **Key Accomplishments:**

1. A two-day cadastral GIS conference was held in Rapid City, South Dakota on September 18 and 19, 2007.
2. The cadastral GIS conference provided the opportunity for the members of the GIS community from all across the state to hear nationally known experts speak on digital cadastral data development and implementation. Forums and discussions during the conference also offered the opportunity for all interested parties to provide input into the cadastral initiative process.
3. The Statewide Cadastral Committee was established. The committee is composed of volunteers and continues to meet regularly to pursue the objectives of the cadastral business and strategic plan. The activities of the committee (minutes, etc) have been made available to the public via a wiki web site.
4. A vision statement, SWOT analysis, and cadastral strategic and business plan were produced by the Statewide Cadastral Committee. These documents have been combined into the final version of the *South Dakota Cadastral Strategic and Business Plan*. This plan outlined a reasonable set of tasks that the committee felt was achievable in the established time frame of three years.

5. A digital parcel data survey has begun and will be completed before the end of 2008. A report will be compiled by the Cadastral Committee based on the survey results and will be made available to the public.

### **How Statewide Coordination has changed as a Result of this Project:**

A significant coordination effort that was completed during this grant is the establishment of the Statewide Cadastral Committee. The committee is composed of members from county and city government, state government, federal government, tribal government, and the private sector. There are members from across the state of South Dakota and interested parties that are located outside of the state. This committee is the first statewide GIS committee that has as its goal a statewide GIS initiative.

Also as a result of this project, awareness by state government of the cadastral initiative has increased. During the conference held in 2007, it was clear that the South Dakota GIS community is interested in supporting a cadastral initiative and is interested in having combined support from both state and local governments. The State GIS Coordinator participated in the conference and is an active participant in the cadastral committee.

### **How this Project has helped to Bring New Stakeholders into Statewide Coordination:**

The cadastral GIS conference held in 2007 provided the perfect opportunity to expand mailing/emailing list of the Black Hills Digital Mapping Association. A hard copy mailing of the conference announcement was sent to all county assessors and county commissioners. Tribal representatives from all South Dakota tribes were included with the hard copy mailing. The email list for sending out the conference announcement was also expanded to include all county assessors. Two workshops on the development of a statewide digital cadastre presented to assessors also informed stakeholders that were unlikely to attend the conference. Based on the turnout for the cadastral committee meeting following the conference and attendance at the conference (over 100 people registered), new stakeholders who have not participated in GIS data activities were recruited to attend and get involved.

### **Practices and Activities that Led to Success:**

The primary practices that have led to the success of this project include:

- Education/promotion of the events (conference and the initial cadastral committee meeting) before the events occurred brought new stakeholders to the process and got them involved.
- Having a stellar group of conference speakers made a huge difference in the quality of the conference that could be offered, which helped to make the business case for a statewide digital cadastre to the South Dakota GIS community.
- The cadastral initiative is and plans to remain a volunteer process. The goal is to have key agencies see the value in the effort and to have everyone come to the table to reach a common consensus based on shared needs. So far this volunteer process is working.

- Devoted volunteers have made the cadastral initiative happen. This is a grass roots effort. The people involved in the cadastral committee have jobs unrelated to this effort and yet continue to provide considerable assistance. Also, a consultant was not hired to write the cadastral business and strategic plan – members from the state’s GIS community created the plan. This has promoted consensus and buy-in for the strategic and business plan from the beginning of the process.

### **Next Steps of Project:**

#### **Next Steps:**

- Continue holding cadastral committee meetings and complete the goals and tasks outlined in the cadastral strategic and business plan.
- Continue to promote the statewide cadastral initiative through presentations at relevant conferences and organization meetings.
- Apply for an additional CAP grant. The cadastral committee is reviewing the possibility of applying for a CAP grant in 2009 under Category 7: Demonstration of Geospatial Data Partnerships across Local, State, and Federal Government. For this grant application, the State of South Dakota will be the lead agency, with the Black Hills Digital Mapping Association providing grant administration support.
- Complete the digital parcel data survey and compile a report of the results. Make this report available to the public and use the information to further promote the statewide cadastral initiative.
- Deliver the statewide cadastral and business plan, a white paper of the business needs of parcel data for multiple agencies in South Dakota (including case studies from across the state), and the completed digital parcel data survey report to the State of South Dakota with letters of support for the statewide cadastral initiative from a variety of interested organizations.
- Secure a supporting state government agency to sponsor the establishment of a State Cadastral Council. The existing ad hoc cadastral committee would be converted to an executive state board, which would be governor-appointed and established by executive order.

### **The Plan for Continuing this Project into the Future:**

The cadastral committee is essential for moving the South Dakota statewide cadastral initiative forward in the coming years. The committee has established attainable goals and has set a reasonable timeline in which to achieve these goals. The major difficulty is the volunteer nature of the committee – a great deal of time and commitment is required to make the initiative a success.

### **What Assistance is Needed:**

- Support from South Dakota state government is very important. The state can bring resources (people, dollars, and credibility) to the cadastral initiative.

- Support from local government is critical. This is where the digital cadastral data is being created and will be maintained.
- Assistance in promoting the business needs of digital cadastral data is needed. The cadastral initiative has to reach critical mass before it will proceed in earnest. This means that many organizations have to see the value in having parcel data and must want to make a statewide digital parcel fabric a reality.
- Support from the federal government is needed to assist in promoting the concept of a national map. In order to develop a national map, federal, state, and local governments must work together. The federal government can provide incentives (funding) to make the national map a reality.

### **Attachments:**

Attachments to this document include:

- Finalized version of the South Dakota Cadastral Strategic and Business Plan

### **Feedback on Cooperative Agreements Program:**

#### **CAP Program Strengths and Weaknesses:**

- Strength: Fifty States Initiative grant allows states at different levels of planning to participate and allows flexibility to try new approaches.
- Strength: Documents and resources available through the FGDC assist in the strategic and business planning process so that states can put these plans together themselves. Especially appreciated were the quarterly conference call meetings of all grant participants in the Fifty States Initiative category. These meetings allowed the sharing of ideas and an understanding of how states approach the same problem differently to meet their individual needs
- Weakness: Funding – not the size of the grants, but how many are offered. Additional funds should be committed to this program so that more states can participate. Also, multi-year funding (or the opportunity to receive a series of grants over a multi-year period) would assist. This would allow building on previous successes and would help to keep a fledgling program going.

#### **Comments on CAP Program:**

- It is great to have states or other regional GIS groups engaged with the federal government on GIS initiatives. It really assists in the process of program implementation.
- The assistance received through the grant was a tremendous resource. Without the funding, the South Dakota cadastral initiative would not have gotten a start.
- The assistance received was very effective; more funding is needed to assist more states and to provide longer-term assistance.