GIS NEWS

Geographic Information Systems (GIS) Technology at Dakota County

HIGHLIGHTS

This issue:
The GIS News newsletter, produced by the GIS staff in the Dakota County Survey and Land Information Department.

Spotlight on GIS: GIS and the Dakota County Public Health Department

Arcview extensions of the quarter: The Dakota County Base Map & TLG Dataset.

MEETINGS

Dakota County GIS Users Group meeting,   For topics to be discussed see the GIS website.

October 4 - 6, 2000
GIS/LIS, St. Cloud, MN. For more information please visit the GIS/LIS website. www.mngislis.org

Produced by GIS Staff

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Dakota
C O U N T Y

Why a newsletter?
By Randy Knippel

We are pleased to present the first issue of GIS News. While we have had a newsletter in the past, we feel that this new format will be much more effective. We plan to publish this newsletter on a quarterly basis by making it available on DakotaNet (the County Intranet). Everyone will be notified of a new issue via e-mail containing a link to the current issue. Those who do not have access to DakotaNet will receive the issue in PDF format directly in the email message. Past issues will remain available in an archive on DakotaNet through the GIS web site.

Our intended audience is anyone working for the County who has an interest in GIS and our GIS partners. We know that our customers have a wide range of experience and knowledge related to the use of geographic information and analysis. GIS has foundations in engineering, planning, and property records; however, we are finding GIS referenced in professions beyond these and is emerging in public health, law enforcement, and other public services. This newsletter will help us keep in contact with potential customers while providing useful technical information to the more advanced users.

The focus of this newsletter will be to highlight some specific examples of the uses and potential of GIS at the County. We intend to provide information which may be of interest to a wide array of individuals. While we may, at times, present specific technical details, they will be supplemented with a broader perspective to ensure everyone is able to gain a better understanding of GIS uses in general.

As technology changes, we continue to see more possibilities in the integration and delivery of GIS data, analysis, and products. We expect to continue to increase our level of service through web-based technologies on both the Intranet and Internet. As always, we are anxious to hear your ideas and work with you to integrate GIS into your business solutions.

GIS and the Public Health Department
by Lila Taft, Public Health

The Dakota County Public Health Department has been working with the Dakota County Survey and Land Information Department for several years to explore uses of GIS technology. In 1998 it was recognized that this tool might have some great benefits in the work of the department. At this time it was decided to purchase the software and to begin training at least one staff in the use of the program.

One of the earliest uses of GIS in health care goes back to 1849 when Dr. John Snow researched the causes of the cholera epidemic in London. The maps he made showing the pattern of cholera victims in the neighborhood of one well constitute a classic use of geographic information to draw epidemiological conclusions.

Currently, several other uses have been made of the GIS system to study health issues in Dakota County. These include

Base Map & TLG Extensions by Joe Sapletal

Each issue of GIS News will have an article in this space highlighting Dakota County ArcView Extensions. This quarter we will be exploring an extension that contains features collected from aerial photography and an extension containing metro wide data.

The Base Map extension was one of the first extensions created for ArcView users using features collected from aerial photography. It took some of the most frequently used shapefiles and grouped them for easy access. The Base Map View contains themes for all of the physical features in our database (e.g. buildings, roads, and water).

In addition to the physical features, there is a shapefile that displays Photography Dates. This is the date of the current data for each particular section in Dakota County. Dakota County updates physical feature shapefiles from aerial photography on a section by section basis (one square mile area), updating existing data with changes and additions to those areas.

Digital Terrain Models (DTM) are also collected, this information is used to create elevation contours. The contour shapefile is also a part of the Base Map extension. This data is used by County staff to create maps for many purposes where shape and elevation of the terrain are important such as a County building location map and a County wide park locations map.

A local mapping vendor (The Lawerence Group) created and provided the data for the TLG Data Extension.

This extension has point, line and polygon shapefiles showing the locations of the Areas of Interest in the Twin Cities area as well as the Address Centerline.

The areas of interest shapefiles have a number of locations including; Military, Universities, Golf Courses, Airports, Parks, Wildlife Areas, Beaches, Islands, and Attractions in the Metro Area. Just recently, the areas of interest polygon theme was used in conjunction with our own Dakota County parcel area data to create a comprehensive map showing all of the golf courses in Dakota County. Locations of schools, town halls, rest areas and major buildings can be found in the Points of Interest point shapefile as well.
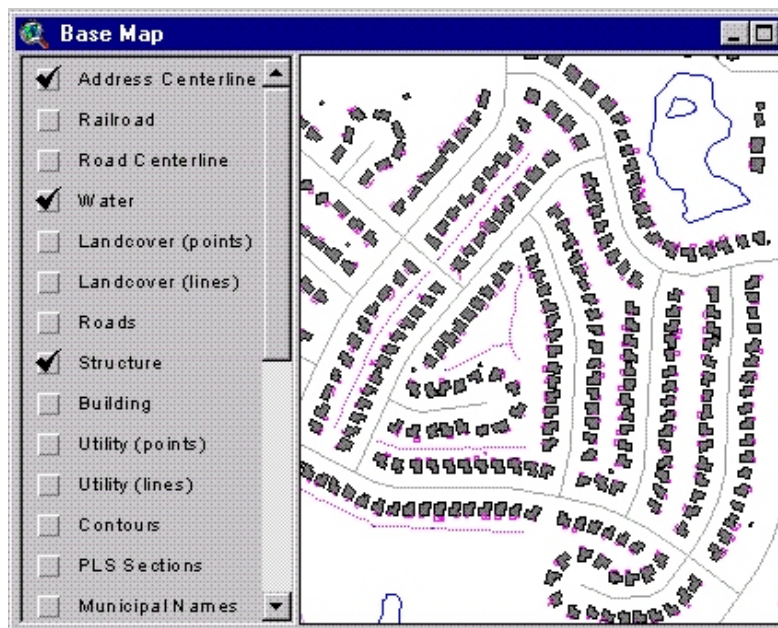
Screen shot of an ArcView view with Base Map themes.
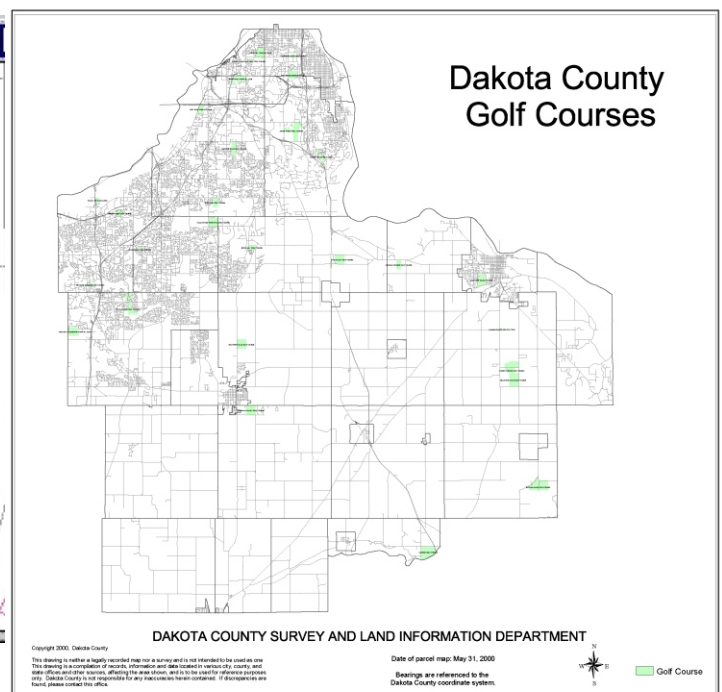
Special request golf course map.

Spotlight continued from page 1

locating resources by mapping site locations for WIC clinics and client addresses

identifying problem areas by mapping immunization levels

targeting interventions by locating a population group at risk for rubella disease and then scheduling clinics in that area to serve the at risk group

identifying target populations by locating the low birth weight births

identifying hazards and risk to locate children at high risk for lead exposure.

An additional use can be seen in the map displayed. The department needed to allocate grant dollars across the school districts in the county. By mapping and then analyzing the births in the county for a 4 year period, resources were distributed by the percentage of births for each school district. The public health department continues to explore ways to utilize the GIS software to improve services by organizing, using, and distributing spatial information.

FTP Server
By Shawn Streif

T he Survey and Land Information Department now has an additional avenue to send and retrieve files, documents and geographic data over the Internet. The new avenue is dependent on FTP (file transfer protocol) services, an integral part of the

Dakota County

Births
- 1994
- 1995
- 1996
- 1997

0 2 4 Miles

Births from 1994 through 1997 geocoded and displayed with school districts..

Internet just like e-mail and the Web. The FTP Server places our geographic data in one place, and will make file retrieval less costly to everyone. In conjunction with a request from the Survey and Land Information Department, the Information Technology Department has installed an FTP server for county use. The FTP server streamlines the data delivery process by reducing the use of CDs and magnetic tape to distribute geographic data. The FTP server allows for geographic data to be updated weekly and then placed on the Internet for retrieval by other cities, counties, etc. Currently, specific data is being provided for the City of Rosemount, and weekly updates for Parcel Query are also available from the FTP server. Due to the nature of our geographic data, a high level of security is maintained on the FTP server.

The new FTP server is up and running, and available for other county uses as well. If your department has a need to

publish data externally with a high level of security, contact the IT department about using the FTP server.
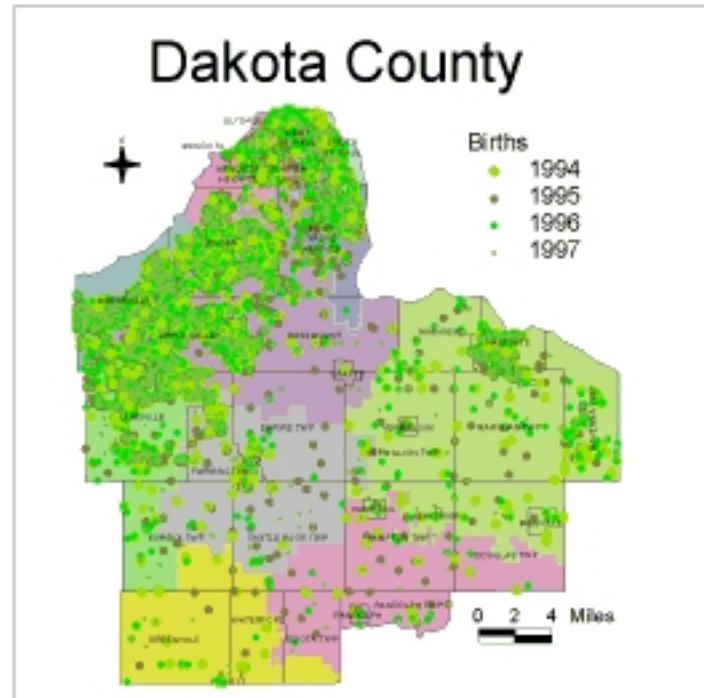
CONTACTS

If you would like to write an article for the Spotlight section of the GIS News newsletter and share how you use GIS in your department call or email Randy or Joe.

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