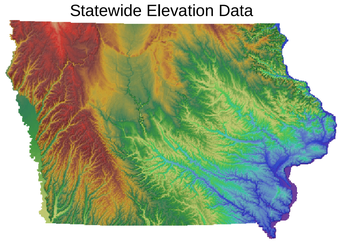
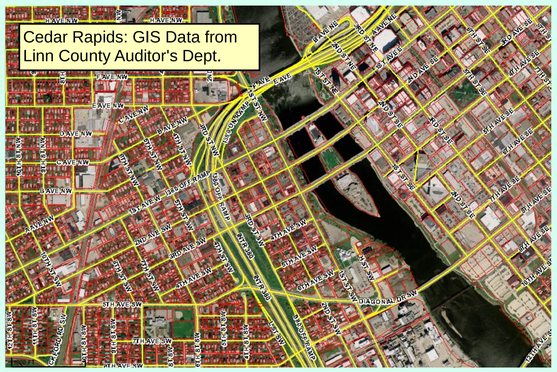
Geospatial Technology in Iowa Governments: The Next 20 Years

1 The Good:

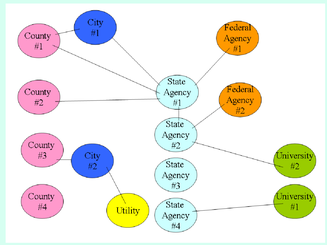
The Good News is that we have lots of good qualtiy GIS data in Iowa. Iowa DOT and DNR have each created large GIS data sets to use in everyday business to serve the public. About two thirds of Iowa's counties have invested in a GIS program that provides the highest accuracy data in the state, including land ownership boundaries.

Statewide Elevation Data



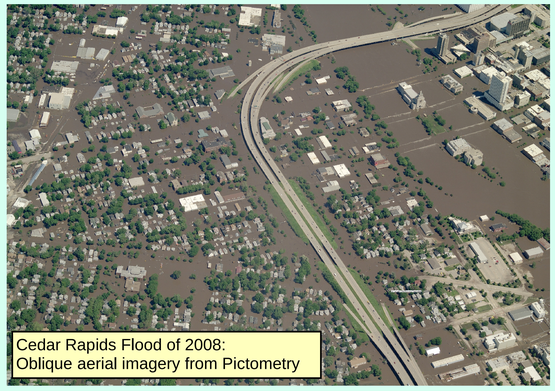


2 The Bad:

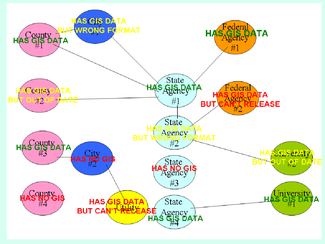


The Bad News is that we're not very well organized or coordinated in Iowa to take complete advantage of all the data that's available. Many state and county agencies cooperate on GIS projects, but there is no systematic agreements to share data, to pool resources when acquiring new data, or to build common web-based mapping applications that seamlessly cross jurisdictional boundaries.

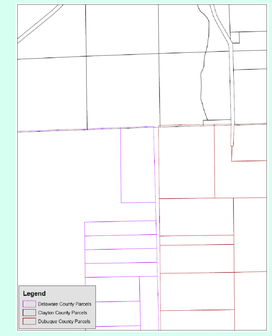
These institutional barriers were readily apparent during the recent disasters in 2008. Large quantities of GIS data were needed in a hurry to allocate resources to fight the flood and assess the damage, but in some cases the data was difficult to access in time. In the future, the data agreements need to be in place and the data ready before a disaster hits. There is no one in the state with the responsibility to develop data sharing agreements and coordinate with all the parties at this time.



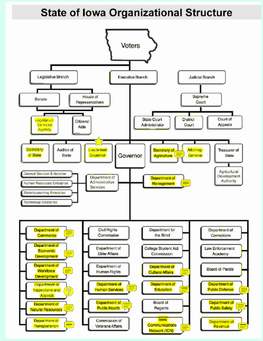
3 The Ugly:



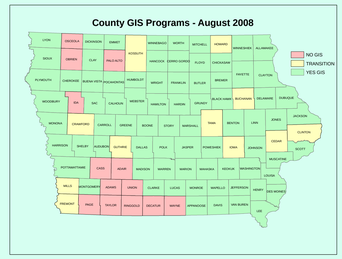
In addition to the institutiional problems of access to data and coordination of large data acquisitions, there are numerous technical issues that need attention to make data from many sources across the state look and work in a "seamless" fashion.



Many counties have good GIS data but for a variety of reasons, it doesn't match surrounding counties. Technical assistance is needed to update databases and make them consistent with adjacent areas.



This chart shows the extent of GIS usage in state agencies. A few agencies, DNR, DOT, Public Health and Homeland Security have been using GIS for years and have extensive data bases. Many of the other agencies have one or two staff persons using GIS infrequently and could benefit from better coordination and technical assistance.



Counties in RED have no GIS and generally have no resources to build one

Counties in YELLOW are working towards GIS, with contracts pending, or in process

Counties in GREEN have a GIS program, but many do not have the staff or training to use new data sets, like Lidar elevation

4 The Solution: Iowa Geospatial Infrastructure (IGI)

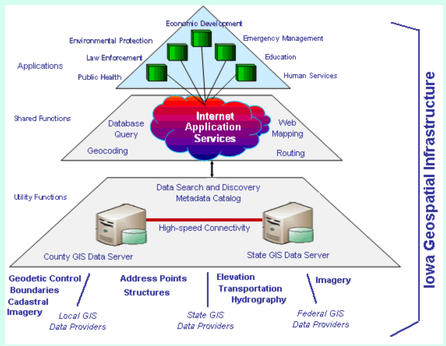
Components of the Iowa Geospatial Infrastructure

1) DATA: framework data needed as base maps for constructing and accurately aligning all kinds of spatially referenced information. Includes GPS control, aerial imagery, administrative boundaries, land ownership parcels, transportation, water bodies, elevation, buildings and address points.

2) INFRASTRUCTURE: servers and other infrastructure to store and move large data sets on the Internet. Application servers provide support for cross juridiction applications, like land records, public asset management, economic development sites.

3) PEOPLE: dedicated staff that assist county and state data producers with loading and transforming data sets into statewide coverages. These include both a county and a state GIS service entity.

4) COMMUNITY: formal agreements to share data and participate in coordination activities. Includes administration and oversight to guide and manage IGI activities.

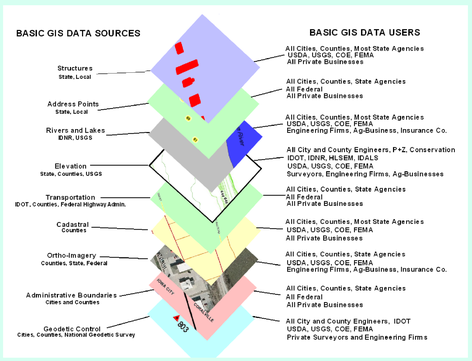


Functions of County and State GIS Service Bureaus

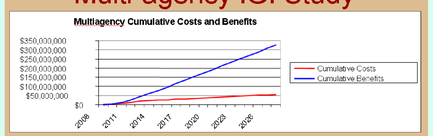
1) A dedicated group to work with county GIS programs to collect their basic GIS data layers, transform them into statewide, seamless coverages, and help them to better utilize GIS throughout their county departments. County data like parcels are critical to state and other agencies.

2) A dedicated group to work with state agency GIS programs to collect basic GIS data layers and transform them in statewide, seamless coverages. They will also assist state agencies to more effectively use GIS in their daily business operations. State data like lidar elevation are critical to counties and other agencies.

3) Both groups develop web-based applications to distribute basic GIS data to users and the public. They maintain a web-based infrastructure to move huge data sets during emergencies and provide a technology base to build vertical applications for human services, health, environmental, public safety and other issues.

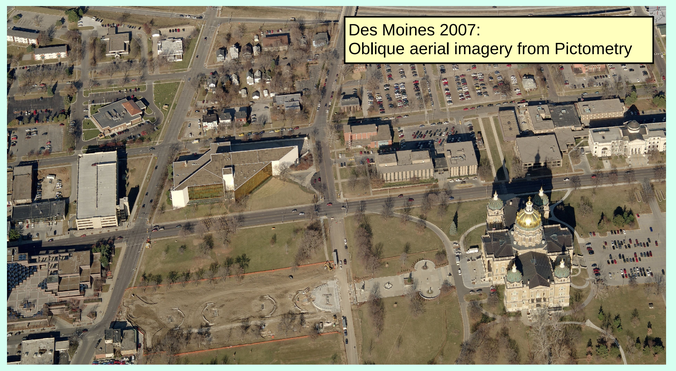


Multi-agency IGI Study



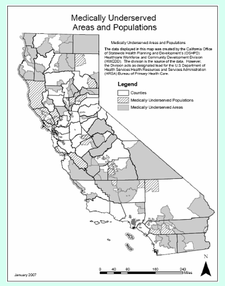
Breakeven Year:	2010
Payback Period (in Years):	2
Net Present Value:	$271,103,423
Present Value of Costs:	$55,983,503
Return on Investment:	24.21% annualized

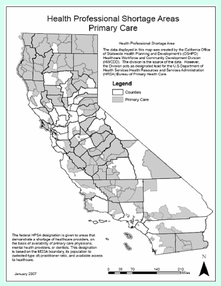
Full IGI Report: www.iowagic.org/igi



5 A Tale of a Successful GIS Enterprise in Another State

California integrates health records with geospatial data to show medically underserved populations and health professional shortage areas - GIS analysis brings in additional $500 M per year





GIS guy

How can Iowa compete economically with other states who are ahead in GIS integration?