# Jump Start Your GIS

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You've probably heard about GIS (Geographical Information Systems) at conferences, from colleagues, or in trade magazines. GIS can be a powerful mapping and data management tool that can greatly reduce the amount of time and money it takes to evaluate information and answer questions. It is basically a "smart map" that shows geographical features and links information to those features.

**A Quick Look at Aerial Photography**

Aerial photography is flown at different heights which determines the resolution of the photos - or how large or small the pixels turn out. Pixels are the little blocks that make up the photo and the resolution is often given in a measurement which tells the length of each side of the block. For municipal work, a 6" pixel resolution is clear enough to see hydrants, manholes, intakes, and poles. This is important if you're going to use the photos to determine the location of any parts of your system.

Many counties already take 6" pixel resolution photos in urban or developing areas. They typically take 2' pixel resolution photos of the remainder of the county. If you're in a county that does not take any 6" pixel resolution photos, you can talk to them about including that in future flights. If you can collaborate on that, it will certainly cost less than if you contracted to have the city flown on your own.

If you've looked into starting a GIS at your location, you may be feeling overwhelmed by what seems to be huge start up costs. Not only do you have the hardware and software requirements, but data acquisition can be very costly as well. You'll be happy to know that there might be a way to get the base information at a very low cost, or even no cost at all!

Many counties in Iowa have a GIS or are starting one. This means that information that you need may have already been compiled or created by someone else. Many of these counties are willing to share their information with the cities within their boundaries because they understand that the taxpayers have already paid for this data.

The most critical pieces of information you need to start a utility system are aerial photography, parcel lines, street centerlines, and corporate limit lines. With these, you have the base on which to build your utility systems. It's extremely helpful if the parcel lines come with ownership information (name and mailing address as well as property address) and that centerlines come with a name you can use to label the streets.

In addition to these four items, your county might have additional information that you would find useful. Often they have township and section lines, rivers and streams, lakes, floodplains, drainage districts, drainage tiles, school district lines, voting precinct lines, subdivision lines, county zoning lines, and railroad lines.

The best place to find out more is from your county GIS people. Sometimes there are GIS people on staff and other times the GIS person is the Assessor or Engineer or an IT person. Contact them and ask them what their policies are about sharing information with municipalities. Find out who the "go-to" person is to get the information and to be kept up to speed on what new information is being planned or added. Don't forget to talk about getting regular updates as parcel lines and ownership change fairly often.

As you build a relationship with your county staff, you may be able to collaborate on projects and work towards common goals. Ultimately, you're both working towards providing better service.

If you reside in a county that does not have a GIS currently, you can possibly start working with them to build a mutually beneficial system. If they aren't planning to start a system, there are several places online where you can find

data. You may still need to get better aerials and draw the parcels yourself, but you can download some features to use right away.

Yes, starting a GIS can be a daunting, sometimes overwhelming task. But if you know where to look, you can jump start your GIS with little or no cost for base data. It's not about what you know, or even who you know but *do you know where it is?*

Online sources for data:

http://www.gis.dot.state.ia.us/downloads/default.asp
http://www.gis.iastate.edu/
http://www.ia.nrcs.usda.gov/
http://www.igsb.uiowa.edu/nrgislibx/

Resource Books:

*Measuring Up – The Business Case for GIS*, Thomas, ESRI Press
*The GIS Guide for Local Government Officials*, Fleming, ESRI Press
*GIS Tools*, Shamsi, ASCE Press

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