

Interviews for Iowa Economic Development Project

1) Daniel R. Anderson, CECD, Senior Vice President, Iowa Area Development Group

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They are the economic development office for RECs and municipal utilities in the state. They market for agricultural development as well as more usual economic development areas and have a 25 year history in the state.

Use of GIS for asset management for their constituent utilities would be a huge benefit. Their service territory map isn't even precise at this time. They use it to show data layers (transportation, aerial photos) to partners when responding for requests for information regarding new economic development. The Economic Development Department sends out requests for information to utilities so as to provide information back to new business leads. The IADG also returns from marketing trips with ideas for new leads. They also receive queries from Iowa Economic Development. They help the communities they serve prepare the best possible response.

He has many ideas of how having geospatial capabilities would benefit his RECs. Fostering data sharing is always good.

Have Jim send him the list of 20 counties (now somewhat less than 20) without GIS.

Their constituency is 40 RECs and 40 municipal power utilities. Only one REC has GIS. Some of the municipalities have access to their county's GIS resources. A typical service territory for an REC would be four or five counties.

The one REC with GIS is Lynn County REC in Cedar Rapids. This REC serves the Cedar Rapids-Iowa City corridor which is experiencing rapid growth. They might be a good subject for financial analysis. Although much larger in population and growth than the typical Iowa REC, ideas of transferrable benefits might come out of such a study.

Dan has an idea for the statewide Iowa Association of Electric Coops to be the repository for shared data. They could receive and house the data and provide GIS support and shared services.

Dan notes that Terry Branstad has been a lifelong supporter of economic development and if he is elected the new governor, it may well be possible to get statewide GIS services funded.

2) Kevin Stucker, Linn County REC

7/6/2010

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I explained that I was referred to him by Dan Anderson of Iowa Area Development Group, as representative of the only one of Dan's REAs with GIS capabilities. Kevin acknowledges that they've had GIS for quite some time, but notes that Makota Valley is just getting their GIS up

and going, Hawkeye REC and Iowa Lakes have GIS, as does Iowa Light and Power in Wilton. Nationwide, about half the RECs have GIS, predominantly utilities with over 15,000 to 20,000 members.

GIS is part of their day to day office and field operations. They are just starting to use it for work management. They use Partner Design out of Athens, GA, which flows through GPS and GIS. They GPSed all their facilities in 2003 and keep this information updated with Trimble GPD units, inputting all designs and equipment changes. GIS is deployed throughout the office and in all trucks. They don't keep paper maps any more. With GIS they are able to put out updates two to three times a week.

Regarding partnerships with counties for landbase: Five counties out of their seven county service territory provide parcel and road data to them. He feels they have an unusually good situation for base mapping. They work with AutoCAD drawings from engineering firms for designing new facilities prior to updates from the county becoming available. Dealing with adjustments once the updates come in requires minimal time and effort. Linn County provides four updates a year. Johnson County announces via email when new updates are available for download from the county server. The remaining counties provide data on CA. Everyone but Johnson County charges for data. Johnson County doesn't make extra effort to distribute data, thus no cost recovery for staff time. Charges by other counties are fairly minimal. For example, Jones County charged \$400.

Rob, their GIS staffer, is good at dealing with disparate data sets, which makes a world of difference.

The two remaining counties without parcel mapping are Cedar and Iowa. The REC doesn't bother with parcel mapping in this case, nothing in the system until parcels are available electronically. Everyone looks to Linn County for answers as they were the first adopters. Benton County is in the early stages of getting data out for use. He notes they also benefit from a good user group, Eastern Iowa GIS.

Economic development: GIS helps them with responses. They can better explain their facilities with respect to properties under consideration. Using GIS saves Kevin in research and driving around time. He can tell what they have available via feeders coming out from the substation. Often he can answer questions immediately on the phone, without further research. Research time is reduced from days to hours. **He estimates they got half a dozen big queries in the first half of this year. Using GIS saves him three days/query.**

They use GIS to square up their taxes to each county. **They're gone from weeks down to days of time to make changes in tax boundaries. The process is easier, quicker, more accurate.**

Their GIS department is two full time staff plus Kevin.

They now have better information for economic development efforts. They know exactly where potential sites are located. They know exactly where their system must go to accommodate new development. This reduces costs as overbuild is no longer necessary. They can tailor the

system to specific needs. Lower cost estimates make Linn County more attractive for development. They are able to build right to design specifications, which allows him to avoid guessing. Knowing exact location allow him to design an optimal route to that location. The design and layout system works better. They do general layout work in anticipation of an industry coming in to their service territory, while they are still at the talking rather than the field stage.

He thinks the RECs without GIS are frightened by the big cash outlay required for startup. Linn County is the biggest REC in Iowa. They've had ESRI-based GIS since 2003. He notes that several of the smaller Iowa coops are using smaller GIS platforms that can read ESRI files.

They started off in a three-coop group to purchase and implement GIS technology. They originally maintained everything on one central server. They quickly outgrew this setup and have been on their own for the past five years. But the partnership was helpful. They got better prices from ESRI by combining their need to serve 50,000 customers. Having the partnership also allowed them to back up data to another location, providing an inexpensive method for disaster recovery. They called the collaborative New Resources Inc. Each REC owned its own data and they put agreements in place for sharing resources. They try to maintain similar data sets.

They had significant ice storms in 2007, 2008, 2009. Eastern Iowa Light and Power provides their off hours dispatch as they have a 24-hour center and Linn County does not. They use Milsoft Dispatch for outage management and having everything on the same view helps. They give their GIS data to contractors who come in to work large outages. They also provide data to locators. They use Parker Inspection Package for evaluating damage.

3) Jessica Lillie, Iowa Association of Municipal Utilities
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7/12/2010

The kind of issues she sees at small municipal utilities include: out of date records and aging workforce, soon to retire with all the utility's facility information in their heads. Hiccups to proceeding with GIS: 1) knowledge of the technology; and 2) upfront investment.

She has developed a starter program where she takes a Trimble GPS unit to the field to capture facilities information. She then brings this data into a GIS and gives them a system to use. This concept employs Map Window, free software that can import shape files. It is programmable, with plug-in addons.

She has subfoot accuracy from the Trimble unit and she does the inventory work with assistance from the operator who calls out attributes for hydrants and valves. She has only worked with water systems to date but has had queries from electric utilities. She works in the drinking water department of her association. She wishes they had a locator attached to the GPS unit for hard to find components. She uses base map aerials at 6" resolution plus parcel maps if they are available. GPS locations and imagery seem to line up well.

She is putting together a workshop and tutorials in hope she can get her municipal clients up to speed maintaining their data. She'll have space for 10 hands on participants for a September 8, 2010 workshop. Getting younger operators involved is beginning to help. Getting interest going from utilities is somewhat slow. She does the work as fee for service. Usually the municipal council needs to approve spending the money, which can be a barrier. She's worked with four utilities to date. Uncertain regarding how many potential utilities for this service. She doesn't understand how utilities do asset management without GIS.

She just finished Earlham, her own community, water utility mapping last month. It is 20 minutes west of Des Moines with 1300 population. Cost of \$2600 to get to GIS. Included curb stops, valves and hydrants. They already had base map files ready to go due to work by a company in Des Moines. Another recent community, population 334, cost \$2400 to get running.

She would love to have access to a central agency providing GIS services to counties. She's encountered issues with counties charging for data. Water utilities do not have a lot of money, operate just barely not at a loss.

Cost for a six-hour workshop is \$100 for members and \$150 for nonmembers. Participants would benefit from annual advanced workshops on plugin applications and the like. She would love to bring in grant funding for water municipalities to get started in GIS.

Experiences to date: 1) Lost operator and knowledge went with him. 2) Needs to have her in to review to use GIS going forward. 3) Her town, operator not interested in learning to use GPS unit. 4) Templeton, user approaching retirement age and not very motivated. Given all these problems, she has working on tutorials and workshops hoping this will help.

Does she know of good examples of GIS use at small municipal utilities? Newton is doing well, keeps its maps up to date, but population is 15,000 so not all that small. She will send out a query in their member bulletin if I send her some verbiage about the IGIC study.

What helps? Ongoing contact with utilities. Offers to help them update facilities data.

She worked some with a utility without any maps, even paper maps. They had a huge main break and it took them days to find the leak without maps. Due to inefficient politics in this town, they did not appear to reform following this event.

She is aware of federal regulatory change coming regarding asset management and gas utilities. Hopefully, this will drive interest in GIS.

PR1 Phase Ranger – technology for determining phase in power lines.

GPS locator would cost several thousand dollars and her association already spent \$10K for her GPS unit. She may hook up her community's locator to see benefits from this application.

Curb stop is the water shutoff point at each service.

They have 550 water members plus 156 gas or electric members (maybe 80 electric in all?).

4) Dave Croll, City of Johnston GIS Coordinator

7/12/2010

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In the area of development opportunities he sees: When a business considering their location sees they have really good records and can expedite getting them out, may be favorably impressed. Straw that tips the decision? Ability to fast track projects. Kum and Go franchise looks at GIS data first for siting. Recently put in a store in Johnston that was one of their first LEED certified buildings.

When local businesses are looking to expand, they get into competitive bidding process with design/build services. Dave throws out packages of LiDAR data and the like to these developers and consultants. Result can be lower bids as the data is already available, no charge for obtaining it, and better data results in a closer (not overbuilt) bid. The result would be a better design for lower costs.

Joint trenching ideas: He can ask if any place they know of has attempted this. Current issues with small pavement widening projects – coordination with utilities difficult and the consultant hired is terrible. They ended up shutting down water to a medical office for a whole day due to inaccurate data.

Issues with deadlines and phasing. Look at the value in dealing with breaks in highly congested utility corridors. There is a Joint Utility Meeting coming up this week. Dave will ask about interest in working with us on joint trenching issues in the area.

Case where there was a feeder line for a major cell phone tower. Malfunction in their line and road just paved. Dave called his Public Works Director who said the utility was absolutely not to cut the street. The utility ultimately found a successful solution. Ames was looking at the possibility of charging utilities for reduction in pavement performance caused by cuts.

Are there trenching incidents that could go better that we could study? Last summer fiber to lights was mislocated resulting in a water main break.

He struggles with why Mid America would want to cooperate with joint trenching. My suggestions: 1) there is a business case for good work management principles at a large utility; 2) are there cases where they would owe the municipality for the pavement break? How much?

Dave will talk to his Public Works Directors and his former colleague in Ames and to the Joint Utility Meeting participants.

He is also interested in benefits from mapping and management of trees in the right of way corridor. I reminded him this could fall under benefits to cities and utility benefits.

5) Peggy Bridgeman, City Clerk, Ute, population 378

7/14/2010

(712) 885-2237

She hasn't been able to do much with their GIS since the mayor took the laptop with Arc9 installation and gave it to the water maintenance guy. It is an old Vista machine and not such a great loss except now she cannot continue with GIS work. They have received one update to Arc9 since the original installation.

Peggy's GIS installation went away in March or April of this year after the mayor and water maintenance person went to a conference and got excited about the potential uses of GIS for the water department. Peggy says that the water guy has not received training and is not using the system. Peggy received several days of GIS training and they only have one license and one trained person.

Their installation was done about a year ago by Midland GIS. Ethan provided training and Kirk Larson is their business contact. They paid \$9700 for software and the original water, sewer and zoning data layer, based on field survey. Midland also provided capability for adding point data and got Peggy started on mapping every dog and cat license in town. She was hoping to buy a house layer this year and begin to map empty buildings for sale or rent, of which they have many due to aging population.

Their current installation is a great improvement over a previous effort where they spent \$3000 to get poor quality maps from an engineering firm.

Peggy sees that getting an additional software license could be a good solution to the current stalemate. She now realizes that she should have called Midland herself but for now will wait to see what I learn from Midland. She notes that she will be out this Friday, if I am calling back to report on Midland.

6) Midland GIS, Kirk Larson

7/14/2010

(660) 562-0050

Explaining the above situation to the receptionist, I learn that Kirk Larson would be the appropriate person to speak with and that most staff are out due to their annual conference being held July 14 and 15. Message left for Kirk.

7) Heather Roberts, Manager of Information Services, Iowa League of Cities 7/19/2010

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Of the 941 cities in Iowa, 482 have under 500 population. Those cities will rely on their counties for GIS. The group with over 500 population are primarily the ones experimenting with GIS.

See Muscadine collaboration with city, county, school boards. Hosted GIS is popular. Epworth and Farley in Dubuque County share their GIS. There are small towns on the outskirts of Dubuque. Each has approximately 1000 population. Janet Burger is city clerk?

Metropolitan cities have problems when they cross county lines. Clive specifically has this problem.

See Sioux City regarding public/private partnerships. They are making commercial property availability layer in their GIS for use by realtors. This is Woodbury County. IT in Sioux City is 20/80 county/city, which is an unusual business structure in Iowa.

Spencer in Clay County experienced new software release that makes it easier for the city to maintain its own maps rather than having the county do it for them. There were training issues. Talk to Teresa Worth, GIS/IT Coordinator (712) 264-3902.

If counties are not working together, it causes problems for cities. She cites West Des Moines now being in four counties.

Back in 2006, having the sex offender registry provide proximity information to schools and other affected populations was a legal requirement. Police chiefs in towns without GIS were drawing on maps with a compass to try to get correct radius information. This was a high sensitivity issue driving the need for GIS capabilities in small population areas, with lots of pressure put on police in these areas. It became less of an issue in 2009 when the distance element of the requirement was changed.

Cities and counties need to be able to value their roads as part of comprehensive planning efforts, tracking material and thickness of the road bed. This begins to relate to where street cuts are made and thus to public/private partnerships with utilities. Also, roads will extend beyond county boundaries. Public works struggles with this type of analysis and would be helped by GIS. Talk to Steve Cooper in Cedar Rapids, GIS manager in Public Works Department.

Heather is going to a city managers' meeting this week and will make inquiries regarding contacts interested in road maintenance and joint trenching issues. Ask Dave Croll in Johnston about Clive and issues with being in two counties.

Economic development issues around a Corps of Engineers lake (Red Rocks) with towns on each side of the lake (Pella and Knoxville). There is lots of development potential around the lake with some limitations imposed by the Corps. Interesting issues with a Federally managed natural resource and medium-sized towns (Pella population is 9909 and Knoxville population is 7731). Knoxville is the Sprint car capital of the world – race cars used on dirt tracks. Both towns are in Marion County.

E911 is pushing GIS for cities. This is another entity into the mix, as is dispatch.

Heather notes there is no State contract for GIS which makes for inconsistent software development and standards.

Consider 2011 redistricting issues. Once census results are in, they will be used for legislative districts and everything below that. House districts must fall within Senate districts. There is no comprehensive statewide way to do redistricting. By Iowa law, each area gets three tries to propose new boundaries. The legislature can reject the first two tries, but the third try will be final. There is a requirement to have a minimum number of people in each district. Cities may turn to their counties for technical assistance.

Heather was involved in the 2000 redistricting effort. There was talk of making every city buy GIS to support the effort but it was found to be impractical. She notes that Arc software for redistricting is free but a city would still need to collect data to support the analysis. In 2000 many of the smaller towns didn't even have computers. She references Wayne Chezik from Marshall County, who has made presentations on redistricting.

8) Stephen D. Cooper, GISP, Infrastructure Management Specialist III, Public Works Dept.

City of Cedar Rapids

7/19/2010

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Point of calling was Heather's comments (above) regarding Steve's possible input for pavement performance, joint trenching and public works.

They have used GIS for flood prevention and flood recovery. Before the 2008 flood they had useful data sets in hand – contours, sewer lines, etc. They also had FEMA maps digitized from 1982 data at 10 foot contours. This information was crap, so for flood response they took two foot contours and looked at the situation more strategically. A week before the flood hit they were certain that it would at least rival 1993 flood conditions. They used GIS analysis to determine what they needed to protect. Their estimates worked well until the flood gauge broke and they lost connection to their servers. Then they used stand alone laptops, used \$200 hardware running free Arc GIS. They needed some way to map the situation when the river gauge broke, so they sent staff out to draw water levels on the two foot contours.

Steve is a minimalist regarding GIS. Keep it simple. Decision makers don't care about the technology. Don't gum up the maps with useless information.

They are currently undergoing a pavement conditions inventory. There are several possible approaches. You could contract out to a big company to collect detailed point data about street conditions, ranking conditions from 1 to 100 every three feet of all the streets. This would cost tens of thousands of dollars. Minimalist approach is to use old hardware and software. Their street superintendent is driving around with a \$500 setup and ranking street conditions from 1 to 10. He's completed half of their streets in the past three months. Costs were minimal and they have the opinion of the professional responsible for maintaining streets.

Their joint trenching efforts are still somewhat crude. Private contractors must apply for a permit to break the pavement. The city permitting agent brings up utility information from the city GIS

and tells the contractor what's underground at that location. Problems: 1) Contractors don't always get a permit. 2) Contractors may not follow exactly based on GIS information. Their machines are not all that accurate.

They are moving toward a more comprehensive land management system. Any public service request will be registered as a dot on a web-based mapping application tied to their work management system. They still have to purchase the application to make this all work. He's been using GDM Master Series for work management but it requires some manual intervention and he can't get all of the administrators to make the effort to tie in to the application.

Using the asset management/work management system in this way has allowed them to reduce sanitary sewer overflows from over 100/year to about 20/year. He sees utility work as one of the harder hitters of GIS. How they use asset management system for preventive maintenance – when a customer calls in with a backup problem, they put this information into their preventive maintenance plan so as to address these problems systematically.

They have 600 miles of sanitary sewer and approximately 23 field workers (FTEs) operating trucks plus they've televised every pipe in a five year rotation. When they find problems, they put them on the preventive maintenance plan. Steve and another staff member work as preventive maintenance specialists. Back in the days of paper maps, preventive maintenance was all in the supervisor's head. In the late 1990s, a supervisor left and for a while there was no preventive maintenance. Then Steve came in and began the processes they have today.

Benefits of work management – They get more productive hours out of setting up a work package than with a more random process. They can arrange to send crews to a location once a year to do all the necessary work rather than four times a year to the same location for various tasks. Work is better organized. Also, it's human nature that when they give crews actual work to do, more gets accomplished.

Also, a component of their capital improvement program has resulted in reduced flows to the sewage treatment plant, with considerable savings in not having to treat greater flow.

He has an idea to package information to communities regarding GIS applications that could be helpful. He envisions a service bureau for Iowa League of Cities. I encouraged him to speak with Jim Giglierano about this idea, which appears very compatible with what IGIC is trying to do.

Public/private partnerships will be tough. Private entities, even utilities, don't understand GIS. They still think it's just Google Earth.

Joint trenching provides a real good reason to have web-based applications and data sharing. He sees this type of approach as still in its technology infancy.

Steve would like to work with us on a business case for GIS-based work management/asset management in Cedar Rapids. He's also interested in joint trenching and we agreed that Dave Croll will probably take the lead on this one, with substantial info interchange back and forth.

Kevin Stucker, Linn County REC

7/20/2010

This was a call to get started on financial analysis of GIS at their REC. They started in 2003 and we'll do a backward looking analysis from present time to startup. Startup costs will include hardware, software, contract for GPS data collection, ESRI local training, telecom. Some costs were shared with the three coop group (software, telecom for WAN, training). Ongoing costs include ESRI licensing with updates, server upgrades every four years. Additional related software include Milsoft, Partner, Trimble staking package, a new damage assessment tool for their OMS.

Two staff work in GIS currently. Kevin will develop staff salary information with their HR and will determine how best to keep this data private. Benefits will begin with time saved by GIS staff and spread out to include others in the organization.

9) Mark Trumbauer, Land Services Supervisor, Next Era Energy

9/15/2010

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Contact request from Jim: Mark does ROW acquisitions for new power transmission lines from wind farms. He uses lots of local parcel information, and will likely use our lidar and statewide orthophotography for planning purposes. He could be a big user of IGI data, and perhaps a supporter of a public-private partnership to make it easier to get.

There is also the economic development aspect of getting the new transmission lines in place, so that wind development can continue. So I would start by asking how the original IGI concept could help them, and work up to the EcDev aspects. Should be interesting.

I've known him for years at Linn County Planning and Zoning and for the last few years he's been with Florida Power and Light/Next Era doing transmission line planning in KS/CO. He's working in Iowa now (though he's lived here always). I'm not sure what he can say or not say, but its worth a try. He sent me a drive for all my data, so I think we can lean on him to spill the beans. He might have good contacts as well with Iowa utilities.

They have a strong interest in Iowa's landbase information. He looks for parcel data first – it's number 1. They will purchase data when necessary. Needs? Landbase data could be more organized. They find it extremely helpful from an economic development standpoint. Terrain information is important in transmission line siting.

He thinks that better GIS data for utilities would allow GIS to do a better job of marketing what we have.

In acquiring data, he starts at the state level, then drills down to the local level. Seeing if it will all fit together is always the magical moment. County edge matching has been getting better primarily due to pervasive use of ESRI map projection tools.

Their effort to gather landbase data remains significant. He has only worked on a couple of Iowa projects and has always been able to get digital landbase from areas he's worked. However, he has a project upcoming which he knows will involve counties without digital landbase.

They have some issues with standardization of costs, on a county by county basis.

He likes the idea of a private-public partnership, given that utilities could consider themselves one big user group, all sharing energy off the same transmission lines. He would look at the partnership idea also from the standpoint of asset management. It gets to be larger than just a state mentality with Southwest Power Pool and MISO.

He suggests I speak with other utilities – ITC, Alliant, MidAmerican. RECs also are in such need for GIS data. They are a huge potential customer for statewide landbase data.

Currently Iowa is sitting on a big wind asset with no way to get it out of the state due to transmission constraints. GIS is a tool to leverage those assets.

Politicians involved are listening. If we can get this to roll – renewable energy production in Iowa – it will be a big boon for the state.

Typical annual costs from his company could be possible. Data gathering and management is done out of their office in Florida. He will talk with these people the next time he's in that office. He would consider a statewide data source as providing added value as well as an economic development tool. It drills to the heart of the question – can the state as a GIS provider be involved to the technical level required?

Statewide landbase would also be helpful in the area of taxation. Being able to tell what district you're in is extremely helpful. Tax issues can drive siting of transmission lines.

Not much wind power activity is happening in Iowa currently due to transmission constraints. In fact they are not doing much wind development in the Midwest for this reason. Perhaps our study could help address what needs to happen to move forward in Iowa.

If IGIC attempted to form a consortium, Mark's company would definitely put someone in the room. He notes that they own a nuclear plant in Cedar Rapids, one of three in their fleet, and thus have skin in the game beyond wind development issues. Potential members would include Alliant, MidAmerica, and ITC. The RECs in Iowa have a great need for GIS data and are a huge potential customer for statewide landbase.

He would tend to bifurcate into producers and consumers. Producers include Alliant, Next Era, MidAmerica. A good example of consumers would be Cedar Falls Utilities.

He recommends putting everyone together in a room to ask where the state could provide data for all to share. We discussed the issue of more timely plat maps for development.

There has been a paradigm shift. The rise of web-based data and software means that we no longer think of these assets being located at one physical location in the town or state. This sets the stage for one stop shopping for data through one server maintained by the state.

What is the right carrot to get counties to provide data for utilities? Ask this in a meeting.

He sees this as a way to make Iowa a leader in economic development. His belief is that if there is spatial data, people will use it.

10) Nikki Breitsprecker, Dubuque GIS

8/17/2010

Economic development ideas:

1) Managing riverfront leases. This process is transitioning to GIS. Use to look at different opportunities. Use maps to evaluate value of a property related to floodwall locations for developers considering a property. Previously all property was considered to be of the same value with a 50-year lease available for \$1. This is ridiculous. ***Nikki can get metrics for increased income to the city from geospatially relevant leases and we'll apportion the contribution of GIS to this benefit.***

2) The larger businesses coming to town want information on available properties. They need to know: access to transportation, proximity to certain other industries. There are 300 layers in the city GIS – lots of information to mine. IBM wanted crime statistics for properties they were considering. Industrial centers want to know what water sources are available, other utilities, proximity to the airport.

3) Enterprise zones and TIF districts downtown. More data is available through GIS and access is easier.

We may want to consider the number of times dollars from a new business will cycle through the community. ***Dave Heiar is the city Economic Development Director.*** This is for the city side of the process, not marketing. ***For that, talk with Rick Dickinson at Greater Dubuque Development Corporation.***

4) Smart City issues? Sustainable economy? ***I should speak with Chris Kohlman first and then David Lyons.***

The city has used GIS more than IBM has to date in Smart City evaluations. Smart Meters are currently tracking water usage without GIS link. They have data down to hourly reads and IBM has organized households into teams competing for efficiency. They've rolled out a web portal for people monitoring water. The current emphasis is customer focus vs. analysis of the distribution system.

There have been ESRI and IBM conference calls. The city hosted these calls to get the vendors together and now they are partnering with each other and leaving Dubuque out of the

process. Chris and David are quite aware of these issues. Thus speak with them and be careful not to engage IBM or ESRI in our analysis until/unless absolutely necessary.

5) Consultants come to the city for data sets such as elevation contours for smaller economic development projects. Bigger projects, such as casinos on boats, consultants sometimes also come to the city. This has seemed a bit fishy to Nikki. What aren't these requests coming through Economic Development? But the consultants for the big projects are willing to pay for data.

City data will save consultants the cost of surveying in some cases. Sometimes consulting firms working for the city will save on field work by using city GIS data. ***Nikki will find a resource at IIW Engineering and Surveyors and refer me to that resource to discuss savings to the city.***

Kevin Stucker, Linn County REC

9/22/2010

For costs, he's been looking at old records back to 2000. He's created a spreadsheet showing purchases, training costs, and the like. This is tracked in work orders for the GIS system installed.

They are getting ready to replace servers, on a 6 year cycle. This should be included in the analysis as a recurrent cost. They also did a field unit upgrade last year, which will be included.

He's still stuck on how much of his time was spent on setting up the GIS. His time intensely over 3-4 months plus another staff member plus a consultant.

Some software was purchased through the consortia, ESRI for example. He will show this as their costs as a portion of total costs.

Also will include staff time on contracts and RFPs.

Kevin has a board meeting at the end of this week and training people coming in all next week. ***He will try to get costs out to me next week.***

Their field inventory will be included in costs. They have costs to inventory to the level of substation. We agreed to keep this level of detail whenever possible as it may prove useful to Linn County and others.

Dave Croll, City of Johnston GIS Coordinator

10/12/2010

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Regarding economic development: JedCo Economic Development serves Grimes and Johnston City. ***Contact is Phil Dunshie, Dave to provide contact info for me.***

In July we discussed Kum and Go deciding to locate a store in Johnston City. Their representative attended a GIS meeting in Iowa. ***She is responsible for siting throughout Iowa and I should talk with her. Dave will try to dig out contact info.*** This experience with Kum and Go could relate to public/private partnerships as well as economic development?

Public/private partnerships and joint trenching: Ames has a program where they set up the corridor ahead of time. In many cases they are dealing with 100 year old water infrastructure. ***Contact is Ben McCondril, GIS guru, formerly at MAGIC consortium out of Muscatine. Dave to provide contact info.***

There is emerging state legislation regarding charging for activity within a right of way. Some of this will depend on existing franchise agreements. There was a big case about five years ago with Midwest Energy and League of Cities.

Johnston Public Works Director is leading a fiber network buildout to support intelligent traffic signals.

There is a case in Johnston of joint trenching on one street (70th?) with Midwest Energy. The trench will be dug only once. ***Dave will speak with Public Works Director and will provide contact info for Dawn Martino at Midwest Energy, who coordinates their relocations.*** Dawn is good to work with and could be a good resource to contemplate mutual benefits of joint trenching.

There are laws/policies related to proximity of water and sewer lines. Dave has heard of a manufacturer for extruded pipe that has created a way to pull fiber through the idle of a 4 inch conduit gas line.

Thirteen different utilities in one trench on university property in Ames, including steam ducts.

Case for us to study in Johnston City: A simple road widening project on 86th Street that dragged on all summer due to weather and time taken to coordinate utilities to deal with their buried infrastructure. We would look at avoidable delays associated with determining locations and coordinating activities. This project is fresh in everyone's mind and some subcontractors are still around. ***Dave will see if he can interest their Public Works Director in participating with this study.***

Who would keep the common location information for joint trenching? Des Moines has a regional GIS focused on E911 and housing address points and street centerlines. ***It's all web based. Dave will send their url.*** They might be the logical keeper of the utility data?

Regarding the city's business case for joint trenching: Consider reduction in accidents (line or fiber breaks, traffic accidents, business loss). The alternative business model says it's cheaper to go out and fix the break than to do locates. The fiber picture in Iowa is very different from water, gas or electric utilities. The Mediacom approach is to just let the dig proceed without input from them. GO ahead and cut it and we'll deal with it later. This may be compounded by the issue of abandoned infrastructure.

What is a good motivation for joint trenching for utilities? It's amazing that organizations aren't willing to look at their procedures and try to improve. From the city's standpoint, there is much to be gained regarding pavement performance, reduced accidents, reduced disruption of business. Dave's colleague in Ames has looked at the possibility of charging utilities for pavement breaks as a form of disincentive. He believes they keep good records and we may be able to leverage some of their metrics for the Johnston City study. ***Dave to provide contact info for colleague in Ames.***

11) Ben J. McConville, GISP, GIS Coordinator, City of Ames Public Works Dept. 10/18/10
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Iowa One Call and the Ames design request program -- in the past would have called in locates prior to design. Now they use data from their GIS for design. The result is more accurate maps, resulting in better locates, resulting in less service interruption and lower cost.

The overall affect of GIS availability has been more awareness throughout the city now that the data is available to everyone.

They have a process for digging in the Right of Way. Use GIS for coordination of projects, as part of their business process. With street replacement efforts, they have a GIS-enhanced effort.

He recommends I talk to someone in Muscatine regarding economic development.

Live Demo of Ben's PowerPoint GIS Presentations

10/28/10

They recently got funding for ESRI Enterprise License through city council which is good progress.

Overall, he sees the benefit of the Ames GIS as better decision making.

Pavement management program guides decision making. It moves toward making the entire road network better. It interfaces with dTIMS from Iowa DOT, pavement management software. They have a truck drive the city annually, using front and back scanning bars. The result is ROW video. They can see images of the road conditions, plus data collected at the same time. Roads are rated with a Pavement Condition Index (PCI). The entire city is done for about \$22,000, but this is a heavily subsidized effort.

They combine PCI with traffic density (count). dTIMS lets them run various scenarios, budget alternatives. Note this is quite similar to running scenarios in the ROI methodology. One the program is better established, they'll drop back to having the truck drive every other year.

They evaluate change in the PCI year by year. Correct management practice will be applied better using the improved existing conditions data. The Ames PCI uses different weighting factors than the DOT PCI as city speed limits are lower.

The Ames Shared Use Path Network is paved bicycle and pedestrians pathways.

Economic Development uses contours and planimetrics. They have two-foot contours and use two sets of LiDAR, from Ames and the State. LiDAR data gets used for preliminary design and site selection. Ben thinks planimetric data is even more helpful than topographic.

They are currently developing methodology to assess stormwater charges. Currently they charge everyone \$3 a month. But shouldn't Walmart pay more than a homeowner? They are using GIS to scale charges by ratio of impervious surface. This would be a huge benefit even though it was originally envisioned as revenue neutral. In the future, it may not be revenue neutral. The ERU system would raise the charge per ERU. Without GIS, would have to delineate surfaces manually using aerial photos.

Using GIS to analyze the stormwater system is an improvement of previous use of paper maps or CAD. It lets everyone see the same information in one place (all stormwater, water, sewer, elevations). They increasingly need elevation data to know where their infrastructure is (3D GIS).

Ben could get their operations guys to look at the utility benefit of GIS. They are moving toward mobile devices and a work management system.

They have permits and rental databases tied to property. They can do audits on rental properties for inspections. They compare the utility database with the rental database to flag discrepancies. This reduces the level of tedium and time in such a search.

They recently digitized their easements with original documents hyperlinked to the map. They are working with a document management developer and thinking of linking all their documents to the GIS. There is huge potential if they can get that interface built.

They have an application for their backflow protection program. It provides quicker access to information.

They use the watershed layer all the time – for grant programs, management practices, public outreach.

Send Ben a copy of the LiDAR benefits document that came out of the 2008 Iowa flood study.

He has a meeting coming up with the Iowa Flood Center to work on improving their modeling. The Flood Center, a standalone organization at University of Iowa funded by the legislature in 2008 to develop forecasting, modeling, and a warning system. They use weather radar for precipitation levels and map it real time. With this application, it's possible to know exactly where the water fell.

They have 2009 Pictometry data for their assessor's office. This cost under \$20,000, and included oblique imagery. ***Does Pictometry have a business case for this use of their product?*** The assessor's office uses imagery to justify their assessments. They also use GIS to do distance weighting for location values. Ames is somewhat unusual in having a city assessor as well as a county assessor.

Snow removal analysis helps them analyze problem areas. They have a web interface for complaints. It provided automated emails to property managers. The benefit is better customer service, saved time, saved contract dollars removing snow.

Parking Program tracks permits, meters, tickets, all in one system. Potentially huge benefits here.

Our conclusion is there is so much to study with Ames GIS that we'll need to pick a few target areas. Best ideas to date are: 1) pavement management; 2) LiDAR contours; 3) utility applications, including work/asset management and field mobility. Next step is to check with Jim Giglierano regarding focus and level of effort.