Region F GIS Users Group:
Sharing Critical Datasets for Emergency Management

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In April 2009, GIS staff in the 13 county Missouri Region F area were invited to a discussion by Emergency Management Directors (EMD's) in the region, to look at the potential for creating a common operating picture across county lines using GIS. The meeting resulted in the creation of a Region F GIS Users Group; a group which has worked together to successfully implement a system that uses resources already available within participating counties to store vital data layers for use in the event of a multi-jurisdictional emergency event.

The main goals of the group were determined to be: back up of critical data in case of an emergency – sharing and compiling data to have the ability to provide mutual aid to neighboring counties or respond to multi-county events.

The GIS groups' first meeting was May 28, 2009 in Osage County. At that meeting it was decided that the GIS staff would continue meeting.

The first meeting entailed getting to know one another and a discussion of whether or not to formalize the group. It was decided to keep meetings informal and keep membership open. The name Region F GIS Coordinator's Group was chosen. It was also decided to start small with only SITUS addresses and street centerlines.

There was a lot of interest in what we were doing from State and Federal organizations such as SEMA, NGA, MSHP and National Guard and representatives attended some of the subsequent meetings along with the Missouri State Geographic Information Officer at that time, Tim Haithcoat.

A representative from Region A, Mark Allen, was invited at the suggestion of Camden County GIS Coordinator Leslie Chamberlin, and he presented what they were attempting in his region. Their plan was a 5 year project that was funded through a grant given to their RHSOC region group. They were currently in the 2nd year of the project. They began with hardware (Toughbook laptops) and getting a network set up. They then focused on the data side.

The state MERIS (Missouri Emergency Resource and Information System) website was also discussed, but the group didn't feel the site was reliable enough to depend on in an emergency. Also there were issues with sending our local data to the state and what they would do with the data outside of the Emergency Management realm.

We needed a way to collaborate online and pass information to the group. Microsoft Share Point and Google Docs were suggested as possible solutions. Jason Warzinik proposed that we use Google Docs and created a spreadsheet whereas each participating county could go in and list whether or not they currently had the datasets we decided to share, and if they did, to list the fields they had so we could determine if the schema would work when the datasets were compiled. Using Google Docs it was easy to set up a document, and send the link to other users who just had to create a Google account to access and edit the document. This was extremely helpful in the collaboration, and best of all free. Using this process it was determined that some of the data would need to be "scrubbed" before sharing to remove any personally identifiable data such as names and phone numbers. It was desirable that participants not have to change their data if possible in order to share their information.

Data sharing among 13 counties had its own challenges such as (1) data sharing/licensing agreements, (2) who would house the data, (3) if the state (SEMA) housed the data, would they have to share it with other state and federal agencies on request and would not have to go to the originating data custodian with the request, (4) who would pay future costs of housing and manipulating the data if SEMA was unable to do it because of funding cuts.

At that time the project began we were in a deep recession and many local, state and federal agencies cutting back on new funding. There was a question on how we would pay for this project.

Where to store the data became one of the biggest hurdles. Several options were explored.

- One option that was brought up and quickly dismissed was to use the state's MERIS system, the states web-based public safety and emergency management system for the common operating picture. This idea was met with concerns about the reliability of the system from prior attempts to use it for emergencies.
- Another option was to house the data at the Center for Geospatial Intelligence (CGI) in Columbia, Missouri. Nathan Mattox who at the time worked for CGI stated that he could offer a secure option where he would not be obligated to redistribute the data via a Sunshine request, whereas if we hosted through a state organization or data warehouse such as MSDIS (Missouri Spatial Data Information Service) the data would be public. The main issue with that option was that funding was not guaranteed to house the data at CGI over time.

- The possibility was discussed of having a participating Region F county host the data. Again this issue of how to protect the distribution practices of the participating counties came into play.

Each county had different rules for distribution of their GIS data. Some required a data sharing agreement and/or fees and others freely distributed their data.

The decision was made that the Region F Group needed to draft a data sharing/license agreement. It was desirable that counties who would participate (*Attachment C*) in the data sharing agreement do so with the understanding that any data requests from anyone outside of the Region F Group participants who would sign the agreement be directed to the original data custodians. The data would be used only by Region F participating counties for Emergency Management purposes and would not be redistributed outside of the group.

The group created a draft executive summary as a starting point to try and outline what the goals and process might be (*Attachment A*). The next item needed was a data sharing agreement that could be used by all counties. A Memorandum of Agreement (MOA) was created (*Attachment B*).

It was decided that the group would work to mentor counties that were getting started with GIS so they could get involved as well. Regular meetings began to work out details in accomplishing the groups' goals.

Once the Data Sharing Agreement and MOA was approved by the EMD's, all of the counties who wished to participate signed those agreements and Boone County offered to take on storage of the datasets. Jason Warzinik, GIS Manager for Boone County created a process to combine datasets from the individual counties into one seamless dataset for Streets and one for Addresses. He also created a password protected web-based process to upload those datasets and download the combined data output. It was decided that the goal should be quarterly uploads.

Some of the issues with combining the datasets were streets that appeared in multiple counties and overlapped, streets that were not coincident from county to county, and counties that did not have GIS data or were not participating yet. ESRI roads are used to fill in some of those missing areas.

Challenges:

Subsequent meetings involved inviting EMD's to make sure we were on target with what they had originally tried to accomplish. It was soon obvious that there were many different ideas of what we were asked to do. Some had concerns of the state and

federal users wanting the groups' data without giving anything in return. The involvement of the State and Federal organizations who expressed interest in what we were trying to accomplish raised red flags with counties who did not want the data they had paid to collect and maintain distributed to organizations who did not contribute to the data's development. There was also a control issue over what would be done with the data once it was distributed. There was concern that the Sunshine Law would be invoked and once in the states hands, the data would be distributed by them to anyone who requested it.

Some counties were just starting their GIS and did not have funding to create the SITUS address and Streets layer.

The goal of getting all regional counties involved continues to be a priority for the group.

Positive Outcomes:

The group is made up of GIS professionals with a diverse set of skills and backgrounds that will enable us to draw on that experience if needed. We regularly meet and discuss what specific projects we are working on and exchange information and ideas. This could also potentially open the door for some cost saving collaboration in the future, particularly on items such as aerial photography acquisition. The group has also used their collective experiences to mentor counties that are just starting their GIS projects.

The National Grid data, 2007 2' and 2012 NAIP imagery layers have been added to the original two datasets. We have been working toward trying to get education out there on the USNG and identifying additional operational layers helpfully at the regional scale during disasters and/or public safety events.

There has been discussion by counties who border other regions that it would be great if something like this was happening statewide.

No cost so far to participants other than the cost of travel to come to meetings and the time involved by Boone County to process the data.

We hope other regions can take some of our lessons learned and create their own regional critical datasets for use in an emergency.

Attachment A
Region F GIS Data Sharing Executive Summary

At the direction of Region F Emergency Managers, the GIS Coordinators began to meet in April 2009 to research the feasibility of, develop procedures for, and coordinate the sharing of critical public safety datasets within Region F. As a result of this and subsequent meetings, E911 and GIS staff throughout the region, along with support from their respective entities, have built and fostered a foundation of cooperation and have continued to discuss issues related to data sharing within the Region. Below are a number of important issues that have been discussed by the group to-date:

- Primary Datasets/Users – The primary datasets to be shared are road centerlines lines and situs address points. Additional datasets may be shared in the future. The primary users of the shared datasets are the E911 centers of Region F and its' neighboring regions. It is agreed that, upon sharing, the dataset shall not become public domain and shall only be used for public safety related activities and shall not be shared with other departments or entities not party to the Region F Emergency Management Data Sharing Agreement.

- Dataset Sharing/Backup/Redundancy – To ensure the data used within Region F is up-to-date, each party to the Region F Emergency Management Data Sharing Agreement shall be responsible for uploading their entity's datasets and download the shared regional datasets at least once a month. The shared repository will be hosted in a secured lab and managed by the Geographic Resources Center at the University of Missouri. To add redundancy, it is recommended that the shared data also be placed at SEMA and made available as a service to the Missouri Emergency Resource Information System (MERIS) so it is available FEMA, and the National Guard in the event of a deployment to Region F.

- Sunshine Law Requests – Each party to the Region F Emergency Management Data Sharing Agreement, including the data repository, shall direct any requests for the shared regional datasets back to the respective custodians of the datasets so the request can be handled in accordance to their respective Sunshine Law request procedures.

- Sensitive Personal Data – Sensitive data, such as phone numbers, names of individuals or any information that could tie an individual to a location shall not be shared.

Memorandum of Agreement for Assembling and Compiling

Geographic Information System (GIS) Data for the E911 Centers of Region F

I. Purpose

This Memorandum of Agreement ("MOA") is between Boone County ("BC") and the Participating Organization signing the agreement below. This MOA defines and establishes the procedures for developing a common standardized emergency management geospatial datasets for the region. This agreement is effective as of the date on which this agreement has been executed by both BC and the participating organization signing the agreement below.

WHEREAS, the Boone County will assemble a shared regional datasets for emergency response to provide a common operating picture that would be available and accessible during all phases of emergency preparedness and response at E911 Centers of Region F; and

WHEREAS, these standardized shared regional datasets are a key component of such a common operating picture; and

WHEREAS, to ensure the datasets used within Region F are up-to-date, each Participating Organization shall be responsible for uploading their entity's datasets and download the shared regional datasets at least once a quarter; and

WHEREAS, sensitive data, such as phone numbers, names of individuals, or any information that could tie an individual to a location shall not be shared; and

WHEREAS, Participating Organizations to this MOA, including the shared data repository, shall be considered to have a license to use the data only for the purposes of this Agreement and, therefore, shall direct any requests for the shared regional datasets back to the respective participating entity of the datasets so the request can be handled in accordance to their respective Sunshine Law request procedures, license agreements and fee schedules; and

WHEREAS, the shared data repository will be hosted in a secured server and managed by the Boone County IT/GIS Department.

NOW, THEREFORE, IT IS AGREED BY AND BETWEEN THE PARTICIPATING ORGANIZATIONS AS FOLLOWS:

II. Definitions

Participating Organizations – Participating Organizations are local governments within Region F in the State of Missouri who choose to provide geographic data under the terms of this Agreement. Each Participating Organization will fill out and execute Attachment A, and a list of the Participating Organizations at the time this contract is executed shall be prepared as attached hereto as Attachment B.

III. Participating Organizations' Responsibilities

Each Participating Organization will:

1. Provide BC their entity's current datasets at least once per quarter.

2. Download from BC the shared regional datasets at least once per quarter.

3. Remove sensitive data, such as phone numbers, names of individuals or other information that could tie an individual to a location before uploading datasets.

IV. BC Responsibilities

1. BC agrees and understands that it is deemed to have a license granted by the Participating Organizations for the datasets provided to be used only for the purposes authorized under this Agreement and is not the custodian or owner of the underlying datasets.

2. BC shall direct any requests for the shared regional datasets back to the respective Participating Organizations so that said request can be handled through the Participating Organizations' record custodians such that appropriate licenses can be executed and fees collected as authorized by RSMo Sec. 67.1850.

3. BC shall host the shared data in a secured server managed by the Boone County IT/GIS Department.

V. Statement of No Liability

The shared datasets is provided "as is" without warranty of any kind either expressed or implied. BC and the Participating Organizations do not warrant, guarantee, or make any representations regarding the use of or results from the use of the data in terms of correctness, accuracy, reliability, completeness, fitness for a particular purpose, or otherwise to any third-party or as between BC and the Participating Organizations. BC and the Participating Organizations shall not be liable for any loss or injury arising out of or caused in whole or in part by the acts or omissions of BC or the Participating Organizations, their personnel, or their sources of information whether negligent or otherwise to any third-party or as between BC and the Participating Organizations. In no event shall BC or the Participating Organizations be liable for any special, indirect, punitive, or consequential damages with respect to this Agreement or the data provided hereunder.

VI. Period of Agreement, Revision, and Early Termination.

With respect to each Participating Organization, this Memorandum Of Agreement will remain in effect until terminated by BC or the Participating Organization by providing 30 days prior written notice.

Any party to this MOA may offer amendments to this MOA. All proposed amendments must be in writing and must be approved by both the Participating Organization and the BC before becoming a part of this MOA.

Any Participating Organization may terminate their participation in this MOA by giving BC thirty (30) days prior written notice. If a Participating Organization terminates their participation, BC agrees to cease use of the portion of the datasets provided by the terminating organization, and to erase its data from the shared data in the secured server managed by the Boone County IT/GIS Department.

VII. General

Neither party may assign or transfer this MOA without the prior written consent of the other party. This MOA may be amended only upon the parties' mutual written consent.

VIII. Entire Agreement

This MOA cancels and supersedes all previous discussions, negotiations, understandings, representations, warranties and agreements, written or oral, relating to the subject matter of this Agreement, and contains the entire understanding of the parties hereto.

IX. Counterparts

This MOA may be executed in any number of counterparts, each of which is deemed to be an original and all of which constitute one agreement that is binding upon all of the parties hereto, notwithstanding that all parties are not signatories to the same counterpart.

X. Legal Authority

WITNESS the following signature of the parties by their duly authorized representative:

The parties represent that they have the authority to enter into this Agreement. This Agreement shall apply to, and be binding upon, the parties hereto, their agents, employees, successors and assignees, all persons acting under, through, or for them, any matter affected by the terms of this Agreement.

This Agreement shall become effective immediately upon the execution by all parties, and shall terminate upon the mutual agreement of the parties.

PARTICIPATING ORGANIZATION:	BOONE COUNTY GOVERNMENT:
Date: _____	Date: _____
_____ Authorized Member	_____ Authorized Commissioner ATTEST _____ County Clerk

Sample Addendum:

Data Layers Being Made Available Under Data Sharing Agreement Between _____ and Boone County Government.

Data Available Under this Agreement

Please check the box next to each dataset your jurisdiction will provide. By checking these boxes you are indicating your organization has this data and is willing to provide it under this agreement.

	Public Distribution	Not Public Distribution
☐ Address Points		

Attributes

	Public Distribution	Not Public Distribution
o Street number		
o Street prefix		
o Street name		
o Street suffix		
o City		
o ZIP code		
o Other		
o Other		

	Public Distribution	Not Public Distribution

☐ Street Centerline

Attributes

Attribute	Public Distribution	Not Public Distribution
o Street prefix		
o Street name		
o Street suffix		
o Left from address		
o Right from address		
o Left to address		
o Right to address		
o City		
o Zip		
o Other		
o Other		

	Public Distribution	Not Public Distribution

Point of Contact for Data:

Name: _____

Title: _____

Dept: _____

Phone: _____

Email: _____

List of Participating Organizations

County of Audrain

County of Boone

County of Callaway

County of Camden

County of Cole

County of Cooper

County of Gasconade

County of Howard

County of Miller
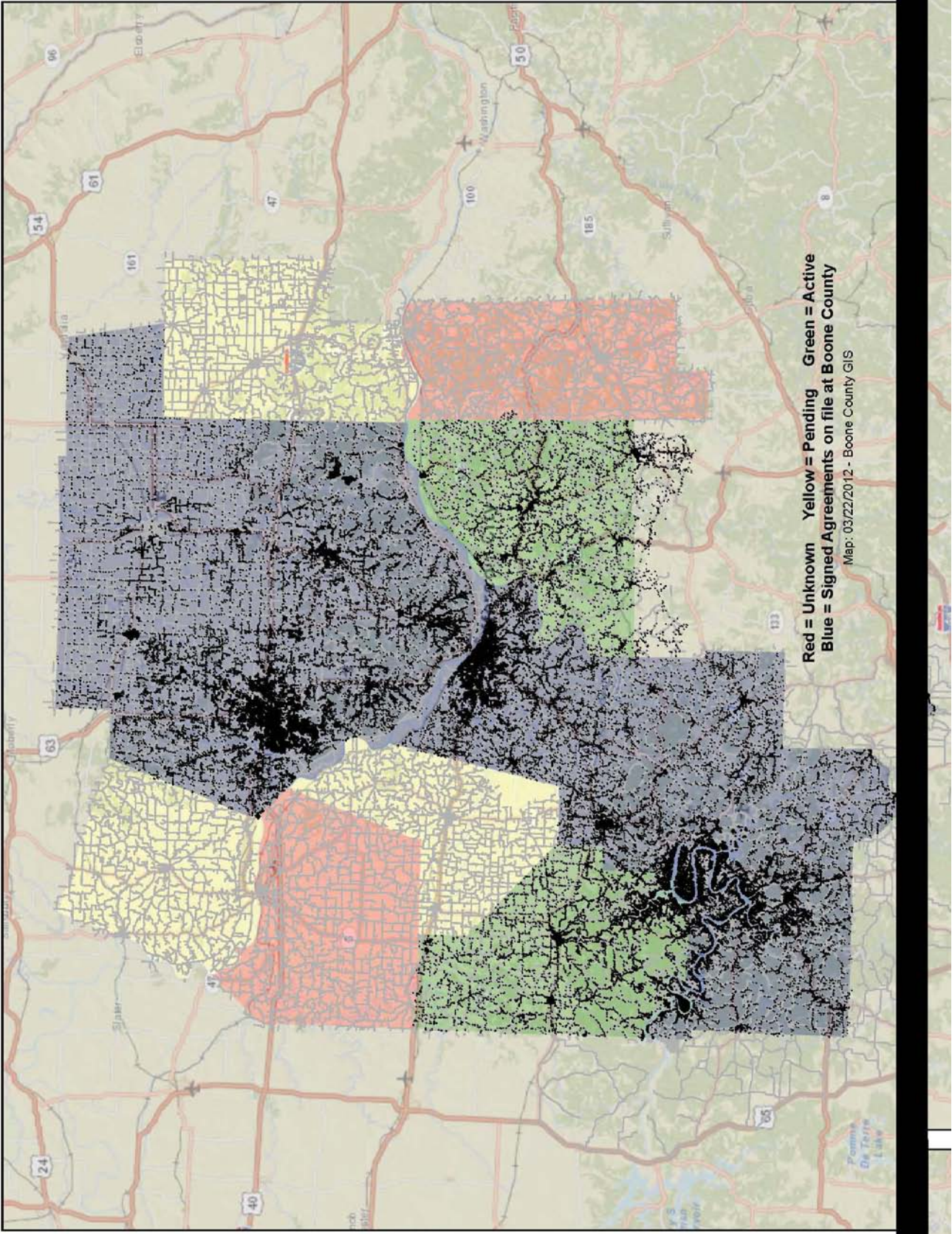
County of Moniteau

County of Montgomery

County of Morgan

County of Osage

City of Jefferson

City of Columbia

Attachment C - Regional Dataset Composite

Red = Unknown   Yellow = Pending   Green = Active
Blue = Signed Agreements on file at Boone County

Map: 03/22/2012 - Boone County GIS

Region F GIS Coordinators Group Contact Information

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