

Meeting Description: Michigan Geographic Framework Users Meeting

Date: October 4, 2001

Time: 10:00 a.m.

Location: Michigan Information Center, George W. Romney Building, 10th Floor, Conference Room

Rob Surber, Michigan Information Center (MIC), introduced Ann-Marie Stefan from Romania. She is in a governmental exchange program between the Romanian government and the State of Michigan, Office of the State Budget. She works in the Romanian Office of Finance and is here to observe the State of Michigan.

I. Approval of September Meeting Minutes

Bill Enslin, MSU Center for Remote Sensing and GIS and Joyce Newell, Michigan Department of Transportation made changes to the September meeting minutes. The changes are indicated in the minutes that are posted on the Michigan Information Center home page (state.mi.us/dmb/mic).

II. Geographic Framework Program

A. Version 1a Description

Rob Surber, MIC, gave some background for better understanding of the geographic framework program. It is a program to develop a common base map for state government and other governmental agencies. The design allows context for businesses that use maps. By combining effort and resources, we gain a better product. Over the past few years, MIC has been working to create an official release of the product. Version 1a is a complete statewide geographic information system (GIS) centerline base map of hydro, rail, political boundaries, roads, other transportation features, and data about them. For Version 1a the physical reference (PR) or the linear reference system on the transportation network is stable, even though it will continue to change. All topological changes are complete on Version 1a except for any attribute splits that are going to be added to the file as it moves into Version 1b. The topology on the road system will not change.

Kathleen Weessies, MSU Map Library, asked if they would be changes or updates.

Everett Root, MIC, responded that they would be changes - things that were missed first time around. Some annexations were missed, etc. MIC will update blatant things that were missed in Version 2.

Rob Surber, MIC, added that it would be clear in the Metadata what has been updated. The Office of Great Seal is the official registrar of political boundary changes. Boundary and annexation changes are not a smooth process and many are often in dispute. The political jurisdictions often say it is a done deal when it is actually held up in court. The 2000 census polygons have been mapped to the framework - tract and block groups, cities, townships, villages, counties and all classification features. Metadata on features and Metadata on file have also been done. All statewide county-to-county seaming has been completed. Some attributes in Version 1a might be done for a portion of the state, but MIC is not declaring a completed Version 1a until a final quality control has been done statewide.

Kathleen Weessies, MSU, asked if at some point would Version 1a become frozen.

Rob Surber, MIC, responded that is the purpose of versions.

B. Version 1a to Version 1x Understandings

Rob Surber, MIC, reported that there would be Version 1a to Version 1x. There is no feature or topological changes except attribute splits and a few added boundary features. There are no Michigan Accident Location Inventory (MALI) transactions between sub-versions ((not physical

reference (PR) changes on roads)). Every change that involves an official delivery will get a new version letter in the sub-version. The purpose is so users know what they have and can relate it to a file. Some counties may not have any changes within sub-versions. Will be able to communicate within a version without change transactions. It will be clear what is different. For users of data, it will be easy. Every delivered version will be backed up to a permanent location, both off site and on site. No attribute changes will occur on Version 1 except the 7 Michigan Department of Transportation (MDOT) data items on the Arc Attribute Table (AAT) - legal system, national highway system (NHS), functional classification, city left and city right, county left and county right, bridge structure identification in the point file, and jurisdictional ownership. There may be some feature classification in Wayne and Oakland Counties. To finalize the feature classification MIC used some of the MDOT attributes and that must go through quality control.

Joyce Newell, MDOT, stated that the statewide quality control would begin in a couple months.

Joe Kogelman, U.S. Bureau of the Census, asked what is included in the bridge identification.

Joyce Newell, MDOT, responded that the bridge identification number for each bridge usually stays the same. The bridge identification number (structure number) is used to id all bridges through federal program called PONTIS.

Rob Surber, MIC, stated that there is also another field called OID, which is different from the PR linear reference system (which forms the road network stable identification scheme). OID is for the features that do not have linear referencing associated with it (rail, rivers, etc.). MIC developed the OID statewide by uniqueness and will have OID changes on the sub-versions. Alden Leatherman, MIC, is working with parent/child relationship on any changes in sub-version.

Alden Leatherman, MIC, added that OID is the beginning point of the arc that is the 'from node' identification, which is unique throughout the state, plus five digits of a bearing of that road as it leaves the 'from node'. This is a 13-digit number. The purpose is to generate a consistent number for a county lines whether Clinton County or Ingham County etc. Because county line is one line now, it would have the same id in both counties. Seaming issues got complicated using the old method. After repositioning and as edits are done, these bearings will change but they still will be traceable by their beginning point. The bearings will be traceable from old ids to new ids.

Rob Surber, MIC, stated that this is a secondary identification scheme in terms of stability and elegance as opposed to PRs. As we move forward with essential data processing requirements, the OIDs may be subservient to additional linear referencing on hydro. For everything else, this will be a way to compare feature to feature. All road names, addresses, zip codes, and other attribute changes will not go into sub-versions, but will go into Version 2. There will be a public site to tract the history of the versions and will tell what has changed. Will also have a site to tract the history of deliveries and when MIC delivers the version will be identified to the recipient. One reason that MDOT attribute changes to the functional class requires a new version letter is that the tabular data base deliveries break rows on the attributes so the tables will not match from one sub-version to another causing confusion and program problems for deliveries. Another reason for stopping changes to Version 1 is that there is a big job to transfer parallel Version 1 work to Version 2. MIC is gearing for that. If Version 1 continues to change, this job becomes impossible. MIC tried to satisfy demands and needs to provide a stable version for people to start working on but reserving the right to add to it at the appropriate time.

C. Deliveries

Rob Surber, MIC, reported that MIC has been making some deliveries of sub-state coverages but will release the statewide Version 1a GIS coverages only after partners have opportunity to

do quality control of the product. MIC is making delivery of extracts out of Version 1 as databases. MIC has created and delivered the transportation management system (TMS) and associated migration files to MDOT; a large access database to MSP, Criminal Justice Information Center, which works with traffic and crash information; a MDOT Traffic and Safety Signal Project statewide; and today or tomorrow will deliver reference database to help with crash location for Michigan Tech and Traffic and Safety; GIS coverages to SEMCOG today; and GIS coverages to county requests.

Joe Kogelman, U.S. Bureau of the Census, asked for an anticipated statewide coverage release date.

Rob Surber, MIC, responded within a month or so for release of Version 1 and anticipate release of Version 2 within 6 months.

Ann VanSlembrouck, SEMCOG, clarified that they are receiving Version 1a today.

Rob Surber, MIC, confirmed that.

John Clark, MDEQ, asked how this is being delivered.

Rob Surber, MIC, responded that at this time Everett Root, MIC, is delivering it. MIC wants the personal touch there. Everybody involved has been patient and think it is because everybody wants it done right. It took incredible amounts of resources and teamwork and patience.

Kathleen Weessies, MSU Map Library, asked how big the SEMCOG file is.

Everett Root, MIC, responded the e00 file is on the average of 30-60 mb per county.

John Clark, MDEQ, added that the e00 file could be zipped down.

Joyce Newell, MDOT, commented that they cannot do anything quickly in GIS software because the size of the statewide file.

Rob Surber, MIC, stated that in all fairness we have not been working with this type of information statewide. There are decisions to make regarding indexing and efficiencies to help manage this. There will probably be growing pains.

Alden Leatherman, MIC, added that big computers speed it up.

Rob Surber, MIC, commented that MIC uses ESRI products. The biggest bottleneck MIC has found in doing statewide work is in read/write disk access. The biggest bang for the buck is the 15,000 RMP hard drives, which is usually not under contract. MIC had machines with comparable memory and set ups and the faster hard disks cut the time in half.

Jeroen Wagendorp, Allegan County, asked if MIC was using Small Computer System Interface (SCSI) or fire wire.

Alden Leatherman, MIC, responded that MIC is using SCSI.

Joyce Newell, MDOT, explained that it took 1 hour in Caliper products to select all the PR roads and 2+ hours to write to another file. Brought two plots, legal system and functional class, to show to the group.

Rob Surber, MIC, commented that in some ways, the maps visually show all the work and in some ways it doesn't because there is a lot of work that is not seen.

Bill Enslin, MSU Center for Remote Sensing and GIS, added that just from the aspect of displaying business applications through this, either through the web or stand-alone products, it is real useable at this point. Many problems because of the amount of data, come with query searches.

Rob Surber, MIC, suggested that any tips or tricks that people discover during use are passed along to Everett Root, MIC, and MIC will post them on the web site. MIC is committed to providing separate themes of information instead of smorgasbord approach. Metadata will be for specific themes. The majority of GIS users will bypass the master file coverage and go directly to the theme. There will also be power users who will want everything at their fingertips for ultimate control and the program will give them that. Need to be clear about Metadata so users can find data that is most appropriate for them.

D. Repositioning Update

Rob Surber, MIC, distributed a status map. MIC is realigning position of all PR roads (not rails or rivers) with respect to statewide ortho photos. Framework is in metric with conversion to miles and feet.

Bill Enslin, MSU, asked if the road is coincident with a county boundary or minor civil division (MCD), does it get moved.

Rob Surber, MIC, responded that it does. The repositioning updates will represent Version 2. It will represent the significant point where everything becomes stable for the next version of statewide massive change. The version number change represents a big jump primarily in the linear referencing and associated data. Version 2, in addition to being completely realigned to digital ortho's and mile points and measurements along the roads will be recalculated, will include changes (topological and PR) to state trunkline features (state highways, U.S. highways, U.S. Interstates, but will not include topological changes to local roads). The reason is to expedite a statewide version released soon. The primary business of state is trunkline, MIC then will work on local road updates and city boundaries – this includes all incorporated places that MIC can get information in time to put in.

Joe Kogelman, U.S. Bureau of Census, asked what the MIC uses for the source for private roads.

Rob Surber, MIC, responded that the county road commissions that are reviewing maps because local roads intersect with their roads and create traffic issues. It is not tightly monitored. MIC has asked the road commissions to provide the information through MDOT to the MIC. MIC also does have a very good relationship with district level postal service, especially Grand Rapids includes all of Lower Peninsula and the eastern Upper Peninsula.

John Clark, MDEQ, asked what version the completing of address ranges fall in

Rob Surber, MIC, responded that there are many people who don't use maps but need addresses. Addresses are a key component to the framework's value. MIC has not focused on addresses in order to get other things done. The MIC is not a "push the button" type agency, but after the Version 2 release they will attempt to carefully create an automated program that will put in new addresses (not currently in framework) from TIGER and other sources. But something is better than nothing. The address will be tagged with the source that provided it. There are not many partners that have linking capabilities – they don't point to id's to link on intersections through an automated way. This may require some manual and automated ways of pointing for automated transferring of data. MIC is really committed to do this and turn around something soon that has address ranges. MIC is looking for a happy medium to get quality information into file so users can get going. It will take testing and development.

Bill Enslin, MSU, asked what was the prospect to partner with local entities.

Rob Surber, MIC, responded that is an example of a state business process that is between local entities and the state that deals with address ranges. Rob is not aware of another formal need of the state for addresses.

Eric Swanson, MIC, added that MIC is partnering with local entities because addressing is a local function and would be an ideal way to proceed. There is no consistency as to which local entity is responsible for addresses. The politics are complicated. MIC has been working on draft legislation to get standards in place that would be a consistent statewide standard to empower the counties (at that time) to tackle addresses on a consistent basis.

Rob Surber, MIC, stated that even if they were clearinghouse. Part of MIC's challenge on partnering is that they need somebody to take bullets when there is a problem. Addresses are personal. Regardless of health and safety issues, the bottom line is that need buy in. MIC has talked to clerk's office and the assessor's office and they each say the official name is something

different – who do you choose. MIC will put in addresses provided but will tag with disclaimers. MIC will seek partners at that level and try to get information in. Received a file from Saginaw County who is working with 9-1-1 – MIC will use it. If counties have data, they are encouraged to send it.

E. Digital Ortho Update

Sherm Hollander, MNDR, distributed digital ortho quad (DOQ) status maps. This is an effort to purchase statewide coverage that meets specifications developed by United State Geological Survey (USGS). Funding has involved the state and a number of federal agencies. The production work is being handled on contract with a consortium of private companies. Jim Living, Woolpert, is partner a in the consortium. They have done 10 of the 16 blocks. The Michigan DOQ Production Status map is an overview of production work using 1998 national aerial photography. The 1998 Series DOQs map indicates the process of putting them on their MDNR web site. MDNR is converting is the DOQs to Michigan GeoRef first so there is lag time between production work completion and web site posting. The 1992 Series DOQs map indicates the process of acquisition, although MDNR has most of it. Alpena County has been added to the acquisition. MDNR's primary emphasis is on the 1998 series. Told Everett Root, MIC, that MDNR will get copies of CDs for blocks 14 and 15 to Everett by the end of next week. Blocks 13 in the works now and 12 was validated by USGS last month – MDNR does not have copies yet.

Everett Root, MIC, added that MIC arranged to share some Saginaw County April 1997 ortho photos to be used for repositioning. Livingston County is also interested in sharing their photos. MIC has Kent County photo's from REGIS that enabled MIC to reposition the entire county in 10 weeks. This will provide a more recent snapshot and eases pressure on USGS arrival. Oakland County's DOQs are in the mail and MIC has Washtenaw and Allegan Counties' DOQs. MIC has 12-15 staff on the repositioning project. The resolution is better because some of the DOQs are 1-foot pixels, some are ½-foot pixels, and some are 2-foot pixels.

Rob Surber, MIC, stated that MDNR has been great in trying to adjust their work schedule. Will get a better realigned product in those areas where there are DOQs. There are advantages as seen in Kent County where things can be interpreted more completely and are able to make decisions quicker and easier.

John Clark, MDEQ, asked if the MIC can share the DOQs with other state agencies.

Everett Root, MIC, responded that the agreement was to use in-house for framework enhancement. MIC will clarify for other uses in writing.

John Clark, MDEQ, added that Environmental Quality's work would be easier with the better, more accurate georeferenced photos. Stated that MDEQ's Flood Plane people asked about Allegan County's elevation data?

Jeroen Wagendorp, Allegan County, responded that they are always willing to deal.

Rob Surber, MIC, stated that MIC is very sensitive to the counties' political data, distribution and policies associated with it. MIC wants to maintain credibility. Pressuring won't work, but MIC will do all that they can do to break down barriers in good faith to share as much as possible with other state agencies. Some view this as MIC doing it to help them get a better vector products.

F. National Hydro Data (NHD) / Michigan Geographic Framework (MGF) Meeting

Rob Surber, MIC, reported that rivers, lakes, and other hydrographic features are an important component and there are important data sets associated. MIC has been working with other agencies on a plan to get the River Reach data (big data referencing system for rivers and lakes) collected through Environmental Protection Agency (EPA) and others on the framework scale. There were preliminary discussions because the Forest Service is attempting to do 1:100,000 scale River Reach product and MIC wants to take the data to framework 1:24,000 scale. There

was a meeting with the Forest Service, MSU, MDEQ, MDNR Fisheries Division to decide if it is possible to align goals enough to work together to make one 1:24,000 scale River Reach referencing on the center line. The group did reach a consensus to move forward with the partnership MDNR Fisheries doing the work, cataloging units, and the with 3 regional offices of United States Forest Service (USFS) represented. The state acknowledges that there will be technical challenges to make this work. The state agencies feel that there is no reason to not go forward but do not know what will be delivered when complete. The framework partners want to see this on framework and want a consistent product. The USFS only covers 1/3 of the state. How the rest of the state gets done will probably fall in state's hands. Cautiously move forward, but will be issues to work out. A partnership sometimes creates more work.

John Clark, MDEQ, added that the USGS has 1:100,000 scale digital line graphs with naming convention and the EPA has RF3 files which has River Reach referencing. The two together created the National Hydrography Data (NHD) at 1:100,000 scale. The next step is to migrate to a better scale. At the 1:100,000 scale, they went from a traditional GIS line file to a geodata base. In order to merge the two data sets we either have to degrade National Hydro Data (NHD) to make a cartographic quality datasets to go into the current framework format or upgrade to framework to a geo data base. The USFS already has a line file of topography and most likely it is of a better quality than framework has of those areas. Counties may have better data because they may be building a hydrography base map.

G. State of Michigan's Naming Authority

Rob Surber, MIC, reported that the state needs an official naming authority for lakes, rivers, and other points of interest – the Geographic Names Information System (GNIS) portion of the USGS file. Michigan is one of two states that doesn't have it. MDNR staff has been doing it by default. MIC met with MDNR to discuss documentation and address issues. Concluded that since framework resides at MIC it was decided that the MIC should be the official lead for statewide naming authority issues. This doesn't mean that MIC makes the final decisions, but MIC will make sure the appropriate authorities are involved. Will move forward with this. There is a 40-page instruction manual that comes with this. Most of it is common sense but there are requirements. Dan Metzger, MIC, is the contact person at MIC and he would appreciate all help.

III. Michigan Department of Natural Resources (MDNR) Projects and Activities

Sherm Hollander, MDNR, had nothing else to report.

IV. Michigan Department of Transportation (MDOT) Projects and Activities

Joyce Newell, MDOT, reported that they are trying to get information into Transportation Management System (TMS) from framework. Staff will be working on the University Region final check. They will start review of Oakland County today. Hope for a quick turn around.

V. Michigan Department of Environmental Quality (MDEQ) Projects and Activities

John Clark, MDEQ, had nothing else to report.

VI. Michigan State Police (MSP) Projects and Activities

Eric Nischan, MSP, reported that MSP contacted MIC for data on state facilities during the terrorists' attack on September 11, 2001. MIC was very helpful and MSP was able to turn around data quickly.

Joyce Newell, MDOT, added that MDOT had a request to check their Permanent Traffic Reports (PTR) to determine how traffic on roads was affected by the September 11 events.

VII. Michigan State Industries (MSI) Projects and Activities

Carol Woodman, MSI, reported that MSI finished Wayne County, sent it to MIC on September 25, and they are now done with the framework project. MSI is still working on MDOT's PR Project – there are 5 counties left. They are also working on 12 counties for Highway Performance Monitoring System (HPMS) for MDOT and will be picking up the Metro Region today.

VIII. MIC Projects and Activities

A. New Legislative District Maps

Rob Surber, MIC, reported that there are new legislative districts that were signed by the governor. There is one law suit with the congressional plan in the Wayne County area. MIC is producing very rough district maps in PDF form to distribute to the redistricting committee members and to the Department of State (DOS). Then MIC will make these available on the MIC web site. This is not a normal MIC product, MIC takes a lot of pride in producing decent cartographic products. A more formal wall map may follow. Also, MIC submitted the new Public Use Microdata Area (PUMA) definitions to the U.S. Bureau of the Census. The PUMA definitions have not been finalized or quality control by the United States Bureau of the Census. Next year they expect to come out with PUMA boundaries and data. With this data can cross-reference census form to a single point – can look at data relationships within the form as opposed to aggregates of independent data. There is a 1% and a 5% sample. Researchers, MDOT, and academics use this. MIC has taken input from Southeast Michigan Census Council by using their definitions of boundaries in their area.

IX. MSU Projects and Activities

Bill Enslin, MSU, nothing to report.

X. County / Local Projects and Activities

Jeroen Wagendorp, Allegan County, reported that they finished the GIS of quarter section corners. They are capturing off ortho's the structural locations of homes and parcels more than 1 acre, by tying x,y coordinates to the house locations. They will talk to local mail folks to fill in blanks of property addresses. There will probably be 20-30% of property addresses that they won't have. They plan to populate the parcels and structures with the mail delivery address. There are enough applications in-house that merit doing this project. Perhaps they can reverse engineer address ranges from this – will know where address ranges start and stop. The Michigan County Association Conference met and feedback has been positive. Hope this will be a reoccurring annual event. About 140 people attended from 43 counties. The association was excited to see many rural counties in attendance.

Rob Surber, MIC, stated that there were counties that MIC has not had an opportunity to talk to and it was very positive. The networking with the counties was positive.

XI. Regional Projects and Activities

Ann VanSlembrouck, SEMCOG, had nothing to report.

Laura Tschirhart, Tri-County Regional Planning Commission, reported that they are address matching for day cares for Michigan Works employers and the Family Independence Agency (FIA) clients. Rob Surber, MIC, met with them to explore what data was available.

Rob Surber, MIC, commented that this was a significant step because this is an important data set. Other regions may be interested in this project. Rob will be presenting at the Michigan Transit Conference and will mention this project.

Laura Tschirhart, Tri-County Regional Planning Commission, stated that this project is for a transit study and will connect FIA clients with Capital Area Transit Authority (CATA) routes to their potential jobs and day care.

Dan Dillinger, Tri-County Regional Planning Commission, added that they have a Garden Project for the food bank to tie into address file as well.

XII. Federal Projects and Activities

Joe Kogelman, United States Bureau of the Census, reported that the Count Question Resolution (CQR) Program was delayed because of the September 11 tragedy. They had training in Charlotte and Philadelphia. The program, which will start this month, addresses location problems with colleges and prisons in the 2000 Census. They expect they will also find additional errors in nursing homes and other special housing. Maps were mailed to all incorporated places for review. They started producing Census 2000 block maps for townships and will be producing on a slow flow basis until the end of January. The Census Bureau office is moving in December.

XIV. Next Meeting Date

November 1, 2001, 10 a.m. until 12 p.m., Michigan Information Center, George W. Romney Building, 111 S. Capitol, 10th Floor, Lansing, MI 48933

** If any changes or corrections are to be made to these minutes, please contact the Michigan Information Center at (517) 373-7910. Changes and corrections will be noted on the final copy to be posted on the Michigan Information Center's home page (state.mi.us/dmb/mic).