AIMS Coordinators Meeting (Engineering Focus Group) Minutes
Hosted by Johnson County AIMS @ Sunset Drive Office Building
October 26, 2006

Data Enhancements, Additions, and Plans for the Future

The first section of the meeting dealt with issues related to AIMS data and the Digital Data Request (DDR) application.

Dan Steen publicized the recent release of updated orthophotography. It was captured on March 31 and April 1 of 2006 and is a color, 0.5 foot resolution product. The next scheduled update of orthophotography is spring 2008.

Update of planimetric features from spring 2006 orthophotography is underway. Updates to building footprints will begin November 1 and continue until the entire County has been updated. If there is sufficient demand, updates to edge of pavement and recreation data (e.g., playgrounds, basketball courts, tennis courts) will proceed simultaneous to building updates.

The potential exists for making flood related data (watershed studies, proposed floodplains submitted to FEMA, floodways) available. Dan polled the audience with regard to the importance of this data to their efforts. There was general agreement that 1) this would be valuable data to have access to, and 2) PDF format for watershed studies would be adequate. Kent Lage mentioned that models would be available eventually.

Dan stated that in the near future, data related to the modeling the earth's surface — DEM, DTM, Lidar, Mass Points, Breaklines — will be complete and can be made available to firms. Once again, there was general agreement among attendees that this would be beneficial data.

Dan introduced the newest addition to AIMS aerial photography, oblique photography. Taken at approximately a 45 degree angle, oblique photography has relevance for various governmental functions including property appraisal, public safety, and economic development. AIMS is currently attempting to integrate oblique photography with its internet map application. Meeting attendees expressed only lukewarm interest in being able to access oblique photography.

Meeting attendees expressed interest in having AIMS embed feature attributes as extended entity data in the DWG format (the end user would need to run a command line extraction [using an AutoCAD add-on] to pull out the attributes). Suggested parcel attributes to embed include PropID, owner, land use, situs address, and utility provider. Similarly, for contour features, embed elevation, and for plat features, embed plat name, number of units, book, and page.

In response to a written question in which attendees were asked to rank datasets according their importance to their organization, highest rankings were given to utility, flood, and surface data. Scanned "as-built" drawings followed closely behind these three,

while embedded feature attributes garnered the lowest ranking. In an open discussion time, access to recorded deeds (including easements) was identified as being another dataset that it would be nice to have access to. One person indicated interest in traffic count data. Little interest was expressed in 3D features (e.g., a building in 3D).

AIMS currently exports to AutoCAD 2000 DWG format. Most attendees indicated that they are using AutoCAD 2004, but have no problem with the 2000 DWG format because of backward compatibility. Attendees advised AIMS to move to the 2004 DWG format in the near future. AIMS was strongly discouraged from exporting to AutoCAD 2007 DWG at this time.

In light of the fact that fewer than 5% of data requests are for DXF or DGN formats, AIMS is considering dropping support for these options. Attendees indicated that would be acceptable. One attendee indicated that the current version of Microstation can open DWG files.

The following miscellaneous suggestions were made by attendees:
▪ Export point features to a larger feature so that they are more visible in AutoCAD.
▪ Allow a user to enter an internal project number during the DDR process. This would facilitate internal accounting procedures.

To see the Microsoft Powerpoint presentation that accompanied Dan's presentation, see http://aims.jocogov.org/resources/mtgnotes/presentations/2006/October/DataIssues_dsteen.ppt.

Introducing CUE (Collaborative Utility Exchange) and CUEView
Access to utility asset data was highlighted during the second section of the meeting.

Jerry Swingle described the initiative that AIMS and utility providers in Johnson County are undertaking with regard to producing a comprehensive data store and portal for warehousing and viewing underground utility infrastructure. That data repository is known as the CUE, and the secure internet map application that provides a window into that repository is known as CUEView. He indicated that the primary anticipated benefits of the CUE are to enhance communication among utility providers and to aid decision making during the planning/design phases of infrastructure development.

A great deal of progress has been made with regard to the comprehensiveness, currency, and spatial accuracy of data in the CUE repository. The repository includes data from stormwater, sewer, water, electric, gas, and cable providers, as well as easement/setback data, and information about capital improvement projects. While it remains a work in progress, its value has been clearly demonstrated and so AIMS is moving forward with plans to expand accessibility to subcontractors (who are doing work for municipalities and utility providers), non-participating utilities, and engineering firms.

Jerry then presented a live demo of the CUEView application. During the demo he emphasized that CUEView is not intended as a replacement for One-Call. He explained

how to "identify" a feature to retrieve such information as pipe material and pipe size. He also raised awareness of the "metadata" that appears beneath the map concerning the current view extent. This metadata identifies the providers of utilities in this area and uses a stoplight metaphor to convey, for each utility provider, how reliable the data is in the current view extent.

Jerry concluded his presentation by listing a number of the improvements related to the CUE that are currently being worked on. These include:
▪ Enabling the download of utility data in DWG format via DDR
▪ Expanding the geographic extent of setbacks/easement data.

To see the Microsoft Powerpoint presentation that accompanied Jerry's presentation, see http://aims.jocogov.org/resources/mtgnotes/presentations/2006/October/CUE-EngFG10-06.ppt.

<u>Improving Communication and Workflows Throughout the Land Development Life Cycle</u>
The last portion of the meeting was devoted to an open discussion of ways in which AIMS could assist with the land development process.

Steve Yoder initiated the discussion by presenting a diagram depicting the various phases in the land development project, beginning with rezoning and preliminary plan/plat, and continuing through design and engineering, and concluding with construction. The diagram also depicted the interaction that takes place with government agencies, as well as AIMS role in the process. Steve then opened the discussion up with the general questions:
▪ What can AIMS do to make the life cycle of a land development project more efficient?
▪ How can we (engineering firms, municipalities, utilities, County departments, AIMS) integrate our workflows in order to reduce redundancy and inefficiencies?

The following paragraphs capture most of the key ideas that surfaced during the discussion.

Knowing early on in a project that other development is taking place nearby can prevent unexpected problems from cropping up later on in the project. Thus, it would be very helpful if AIMS would capture the boundary extent (i.e., perimeter) of requests for rezoning, and make that data (i.e., the geography and relevant attribute data) easily accessible via an internet map application (i.e., it is not necessary to be able to download these boundary extents; simple view access is adequate). The documents related to requests for rezoning are public, and so can be made available on a public internet map application. To ensure that AIMS collects the boundary extent that firms formally submit to municipalities (firms might perhaps withdraw a submission), it makes more sense that AIMS acquire the request for rezoning from the individual municipalities as opposed to engineering firms. In order for this dataset to be kept current, it is important to record the final action that the City Council takes on the proposal (i.e., approval, rejection). A similar process for tracking plat applications would also be beneficial.

Attendees indicated that procedural and digital requirements for various steps in the land development process vary substantially among municipalities (and sometimes even among persons within a single municipality). While uniform requirements across the entire County would certainly be nice, attendees indicated that it was not realistic to think that this could be accomplished.

Attendees from the County expressed the desire that the flow of data back to the County in the form of "as-built" drawings, final grading plans, and so on, be improved. This could assist the County in a variety of ways, including averting having to re-survey the site after construction (in the case of Stormwater), manually re-keying feature attributes (in the case of Wastewater, if such data were provided in a tabular format), and updating planimetric features from orthophotography (in the case of AIMS). Attendees from engineering firms indicated that many, but not all, of the Johnson County municipalities require digital "as-builts" upon project completion. They indicated their willingness to share those drawings with the County; as with requests for rezoning, it may make more sense, however, to acquire these drawings from the various municipalities.

It is important to understand that municipalities differ with regard to their "as-built" drawing requirements. Some municipalities may require that the drawing reflect a survey conducted after construction. Others may not be quite so stringent, accepting a marked-up construction drawing. Some municipalities may require "as-builts" on all development. Others may only require "as-builts" on public development.

In contrast to highly accurate "as-built" drawings, "site plans" are drawings that may be +/- 2' in accuracy. These drawings are generated early on in the development project, but may not be accurate enough to use for updating planimetric datasets.

When making documents related to a particular project publicly accessible (e.g., the "site plans" for a proposed new development), AIMS should convert drawings (.dwg) into a .pdf or .tif format.

The group briefly discussed whether it made sense to pursue technologies that would enable us to move away from "file translations" (the current method that we use to share data among our organizations) to "embedded data access" (a.k.a., "direct read). Examples of "embedded data access" include the capabilities provided by AutoDesk Map 3D to read/write data in an ESRI SDE database, and ESRI's ArcGIS Server in which an AutoCAD user can use an internet connection to view data stored in an ESRI ArcSDE database. Attendees generally agreed that those technologies are not currently practical for the relatively small firms they represent.

To see the Microsoft Powerpoint presentation that accompanied the discussion that Steve led, see
http://aims.jocogov.org/resources/mtgnotes/presentations/2006/October/ImprovedIntegration2.ppt