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Session Overview

Beyond Map Making:
Using Technology to Enhance Planning & Engineering Outcomes

Michigan Municipal Executives Winter Institute
Battle Creek, MI – February 7, 2019 | 10:15 a.m. – 11:45 a.m.

This session was presented as a "story map" - a GIS platform that integrates photos, text and interactive maps to present information in a richly engaging manner. Check it out here: **https://tinyurl.com/GW-beyondGIS**

SPEAKERS

Jill Bahm, AICP, Partner, Giffels Webster, Birmingham, MI
Mike Kozak, PE, Partner, Giffels Webster, Washington Township, MI
Ariana Toth, GISP, GIS Manager, Giffels Webster, Detroit, MI

SESSION SUMMARY

Municipal governments rely on data – most of which has some type of spatial component. Geographic Information Systems (GIS) is a tool that the public sector can use to transform the way assets are organized, communities are planned, and ordinances developed. Applications based on this information can also improve the effectiveness, efficiency, and accuracy of staff. Incremental investments into a community's GIS allow the expansion of database information for asset management, to improve assessments, and better maintain your community's above- and below-ground facilities. The powerful combination of GIS, AutoCAD, and laser scanning can also enhance decision-making for planning, zoning, and historic preservation.

Public Works. Many communities are developing asset management plans to ensure viable long-term maintenance of their facilities and infrastructure. Often, however, these asset management plans are based on a series of disconnected maps and paper records. So the first step in any asset management strategy is creating an accurate and efficient database that is tied to geographic locations in the community. An obvious benefit of having an interactive map-based display of water, sewer, roads and other community assets is that this platform conveys a considerable amount of information in a highly usable and accessible format. The ability to view a dynamic geographical interface can replace thousands of pages of plans and spreadsheets. With interactive GIS mapping, municipalities can not only see what assets they have, they can identify which assets are in need of maintenance or replacement at a glance. These maps can then serve as the basis for required capital improvement plans (CIP), short– and long-term capital budgeting and rate forecasting. They can also educate the community about infrastructure revenues and expenditures.

Community Planning. GIS platforms offer alternative channels for public input and education. These tools can be used to help communities reach out to residents and business owners who may not typically attend meetings as well as to obtain geography-specific and visual information that letters, emails and oral comments cannot convey. Three examples of using GIS-based platforms include:

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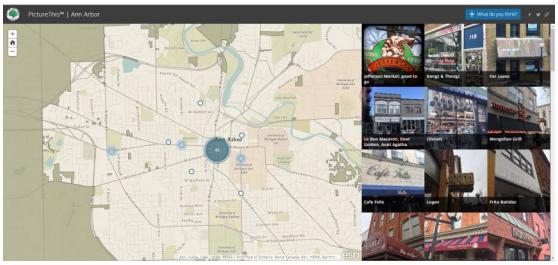
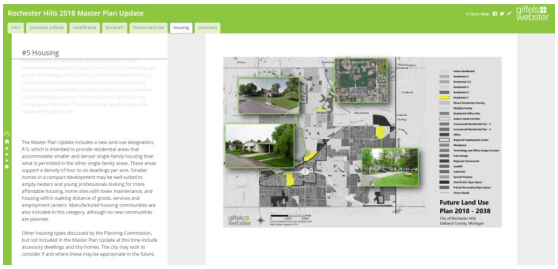
This Washington Township infrastructure map illustrates where water & sewer customers are located, which is useful for ongoing maintenance and future connectivity.



Picture This!™ allowed Ann Arbor residents and business owners to upload images of signs that they liked and disliked. This platform has been a useful tool as the city updates its sign ordinance.



This GIS-based online platform offered the public an alternative way to participate in the master plan process in Rochester Hills.

SPEAKER BIO'S


Jill Bahm, AICP
Partner


Mike Kozak, PE
Partner


Ariana Toth, GISP
GIS Manager

Jill Bahm is a Partner at Giffels Webster with over 20 years of planning experience. Jill's professional interests include economic development, recreation planning, historic preservation, community participation and organizational development. Jill currently serves on the Main Street Oakland County Advisory Board and the Michigan Association of Planning's Information & Education Committee. ***jbahm@giffelswebster.com***

Mike Kozak has over seventeen years of civil engineering experience and is a Partner at Giffels Webster working on a variety of municipal, residential and commercial projects. In addition to developing utility master plans and capital improvement plans for public clients, Mike has overseen the design and construction of significant municipal infrastructure projects including miles of water main and sanitary sewer extensions as well as unique assets such as a water storage facility and wastewater treatment plant.
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Ariana Toth is the GIS manager at Giffels Webster. She received a master's degree in Geography from Western Michigan University and a Bachelor of Arts in Political Science from Oakland University. As web-based GIS has come to the forefront of cutting-edge GIS technologies, Ariana has eagerly pursued advancing the direction of GIS at Giffels Webster through the use of ArcGIS Online, Collector for ArcGIS, and other mobile platforms to improve project communication and workflow. Ariana recently earned her GIS Professional (GISP) credentials. ***atoth@giffelswebster.com***

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- **PictureThis!™:** The City of Ann Arbor is updating its sign ordinance to include sign standards that reflect evolving technologies and approaches as well as a general update of sign regulations. Residents and business owners were invited to participate in an online platform to better understand how residents and business owners think the current sign ordinance is working and what may need work. Images of signs that seem creative, effective, and attractive, or distracting, bland, and ineffective were submitted from an internet browser using the user's phone, tablet, or computer. The resulting images have been useful in understanding what the community thinks of its signage.

- **Master Plan Engagement.** For the City of Rochester Hills 2018 Master Plan Update, in addition to a public open house, we created a "Virtual Open House" using GIS-based story maps to offer residents and business owners who were not able to attend the physical open house an opportunity to provide their input online based on the same information presented at the physical open house. The story map included a survey that also asked the same questions asked at the open house regarding specific redevelopment sites, the proposed future land use plan, and housing. By using the online-based Story Maps, the city was able to reach out to more residents than were able to attend the open house in order to get additional public feedback towards creating the Master Plan Update.

- **Interactive Zoning Map.** Washington Township recently adopted a new Zoning Ordinance that features a GIS-based interactive Zoning Map. In addition to a re-organized structure, the Clearzoning® format is designed to be accessible on the web and fully interactive. The electronic document is formatted with linked menus on all pages, as well as linked definitions and references to other sections of the ordinance that enable users to quickly and easily navigate the document without having to go through the ordinance page by page. The document is fully searchable, making it easy to find provisions relevant to the project at hand. The interactive zoning map allows users to select a specific parcel and gain quick property facts with the ability to link to the Zoning Ordinance, where basic zoning information specific to that parcel is provided. This helps users find answers to basic zoning questions any time of the day, and frees staff to answer more complex zoning questions and handle other items.

CONCLUSION

Geographic Information Systems (GIS) applications can transform the way assets are organized, communities are planned, and ordinances developed. GIS applications can be tailored to a community's needs to promote transparency as well as improve the effectiveness, efficiency, and accuracy of staff.

The real-world examples shared in this session illustrate how the powerful combination of GIS, AutoCAD, and laser scanning can also enhance decision-making for public works, planning, zoning, and historic preservation.