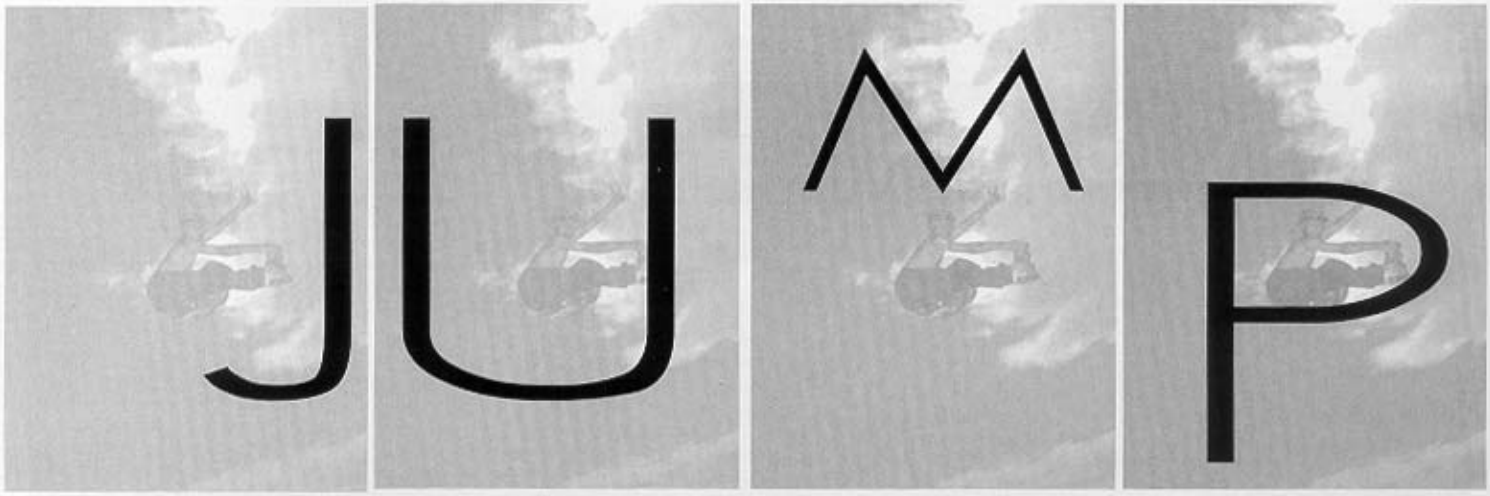

Start Your GIS with a Plan

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Many municipalities have embraced Geographic Information System (GIS) with great success, while others have struggled with it. Those who have had the most success have developed and executed a plan for their GIS including short- and long- term objectives. Developing a GIS plan does not need to be a complicated, drawn out process. Start with a simple vision and develop a few measurable objectives to enable it. As with all investment decisions, focus on what matters to your residents and the needs of your community. Most municipalities tie the investment and value of GIS to their strategic plans or to simply improving customer service to residents.

In developing your plan, solicit input on key focus areas from your staff. Gather your managers and employees from all levels, including field personnel and information technology staff. Employees must buy-in and drive the evolution of a system to ensure its implementation success and long-term effectiveness. The majority of municipal employees understand their jobs very well and usually have a good idea about improvements that could be made to systems that they are responsible for. To supplement employee suggestions in developing your plan, you can use consultants, resident input and case studies from other municipalities, but keep the following in mind:

- As with any plan, focus on a few key objectives and limit feedback to those items. Too much input can lead to too many tactics, increasing the cost and complexity of your plan.
- A success (or failure) story in one municipality may not translate into success in another. Follow-up with both the managers and staff associated with the success or failure in another municipality, before you finalize your plan. Is GIS still providing value one year after implementation or has it been abandoned? The most successful implementations usually have empowered staff, who are fine-tuning the system on a regular basis.
- GIS can enhance your work-flow, but avoid solving existing process inefficiencies by simply "throwing" technology at them. Identify the information that needs to be tracked, who will be tracking it, and the types of reports that will be required, before moving forward with a system. This will allow you to determine the best application for your needs.

■ One-size fits all software approaches usually don't work out well, as many lack the flexibility that is often required in municipal work. On the positive side, they do provide a consistent software interface. As with any software implementation, success often depends on buy-in, process management, and effective accountability systems.

In developing your plan, you will inevitably arrive at the issue of cost. While GIS software, training (and learning), data collection, data conversion and proper staffing all require investment, there are several tactics that you can implement to minimize your financial investment. Here are a few of them.

Integrate Existing Data

Several government agencies have created GIS data that is readily available to the public. The U.S. Census has road data; Federal Emergency Management Association has general floodplain data; and the U.S. Geological Society has elevation data, basic aerial photography and their popular USGS Topographical Quadrangles—all available for free download via the Internet. Many state agencies have data, also available through the Internet at the state's GIS Data Clearinghouse (www.pasda.psu.edu). And many counties are beginning to create and maintain data. Tax parcels, addressed roads and even high resolution aerial photography are maintained and available to municipalities. As the specific layers vary from county to county, you should contact your county's GIS department for availability of data.

Where appropriate, existing data can serve as a starting point for a municipal GIS. This data allows municipalities to map the information that is specific to their governing area or other areas of interest. For example, if your county has tax parcels available to you, you could use this as a basis for tracking permitting applications, without having to create your own parcel data and maintaining it.

Incorporate Free Data Viewers

Once a municipality begins to create and maintain their own data, it can be shared throughout the organization. Free data viewers are currently available to allow read-only access to information for individuals who are not required to edit data. These free viewers can allow GIS to be placed in the hands of decision makers, at a negligible cost. Many of the leading GIS companies such as Environmental Systems Research Institute (ESRI), MapInfo and AutoDesk provide GIS file viewers. There are also several Open Source and customized options available for viewing spatial information, both through stand-alone and web applications.

Take Advantage of Grant Opportunities

There are various grant opportunities available for the advancement of your GIS. State agencies, such as the Pennsylvania Department of Environmental Protection, offer software and training grants for groups wishing to start a GIS. Additionally, many of the large GIS software providers, such as ESRI, have on-going grant opportunities for software, hardware and training.

Supplement Knowledge w/Online Training and Resources

A knowledgeable staff and appropriate training can greatly increase the success of any GIS initiative. Keeping up to date on software training and techniques can be difficult. Online training allows employees to train during slow period and enables them to train at their own pace and schedule. Many local universities, such as the Penn State World Campus, and many software companies, such as ESRI, offer self-paced, web-based training to accommodate municipal training needs. In addition to being a convenient training alternative, the courses are often more reasonably priced than instructor-led courses.

Get involved in the GIS Community

Local user groups offer an opportunity for people to gather and discuss projects and policies with their peers. These groups aid in influencing government involvement in the GIS community. Groups such as the Pennsylvania Mapping and Geologic Consortium allow individuals from the

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public and private sector to meet and discuss issues and help influence future polices, such as data standards and funding opportunities for the members of the community.

While not applicable to every municipality, the tactics described above should enable you to greatly improve the return of your GIS investment. Many of these tactics can "jump start" a stagnant GIS, or provide a strong foundation for a new GIS plan. By creating and executing your GIS plan, you can increase efficiency, reduce expenses, empower your workforce and maximize the effectiveness of GIS to the municipality and its residents.

ABOUT THE AUTHORS

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