

The Need for GIS in Virginia

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Virginia needs Geographic Information System (GIS) technology. Uncounted resources are now being spent on creating, analyzing, distributing and storing geographic information. It is said that 80% of local government issues involve land parcels or land use. Presently many, if not most, of these decisions are made without benefit of a good spatial analysis system. I believe investment in GIS will save, not cost, money.

The Virginia Geographic Information Network (VGIN) Division within the Council on Information Management was established by the 1997 General Assembly and can be found in the Code of Virginia in Section 2.1-563.36-41. This can be found on the Internet by going to <http://leg1.state.va.us/lis.htm>, selecting "Search: The Code of Virginia" and then entering the above Code section in the search window.

Key elements of this code define the powers and duties of the Division, the Division coordinator, The Director of the Council on Information Management and the VGIN Advisory Board. It is clear from reading the Code that there was reluctance on the part the General Assembly to having VGIN become too powerful. For example, the head of the Division is a "coordinator" not a manager or director (or GIS czar). This, I believe, results from several previous failed efforts to create a strong agency which would have threatened the jurisdiction of several existing agencies and would have competed with them for state funding. The challenge of the Advisory Board is to see that VGIN efforts are complementary in terms of jurisdiction and supplementary in terms of funding where existing work is effective. Where other agency efforts are ineffective and don't contribute to the "common wealth", I believe it is the Board's duty to attempt to redirect such efforts.

Within the VGIN Advisory Board, a Planning Committee and a Policy and

Standards Committee have been established. I head the Policy and Standards Committee. Our official tasks are outlined on the VGIN Web site at <http://www.cim.va.us.va.us.vgin/index/htm> and our list of Goals and Objectives have been distributed and can be found on the Anderson & Anderson Web site at www.andassoc.com under VGIN. My committee has an active email exchange going on and many of you have gotten parts of our discussion if you have an email address listed in the latest VAMLIS directory. If you want to be added, send me an email to that effect at anderson@andassoc.com. We have not limited the committee to members of the Advisory Board so we invite you to participate. Our meetings are usually held immediately after the VGIN Advisory Board adjourns which, so far, has been in Richmond on the 9th Floor of the Washington Building. Most Board meetings have adjourned by 11:30 so we meet for about an hour. We have held one teleconference and expect to teleconference between Board meetings but much of our work has been and will be via email. Please join in.

The Goals and Objectives give a good indication of our focus on the Policy and Standards Committee. At our last meeting we had a spirited discussion of what public information should be available to the public on terms other than those required by the Freedom of Information Act. An example that brought some intense discussion was whether the free Official State Transportation Map should be available in digital form for free. Presently it is copyrighted and the digital file is given out under very controlled conditions. The fear is that someone will take the file, which was developed with public funds, and resell it for profit. Others of us believe that if the objective of developing the map was to get as broad a distribution in to the hands of users as possible it does not matter how it is done. If someone makes a profit on distributing it in the same or

better format the original objective has been accomplished. If they pay tax on the profit to the Commonwealth in the process, that is even better. This kind of discussion will continue and we will work toward some consensus and recommendatin on these kinds of issues. Our objective is to have several pieces of legislation ready for the 1999 General Assembly dealing with GIS issues.

One of my personal concerns is that the state has given very little direction on GIS to its counties, cities and towns. Since Virginia is a Dillion Rule state (meaning subdivisions of the state can only do those things specifically allowed by the state government), I believe that the state has the authority and the responsibility to see that such functions as land records management to be done in the most effective way possible. Presently, for example, there is little direction from the state on how the parcel mapping part of land record management should be done. The Department of Taxation's system of assistance to local governments, while presently being improved, is archaic and slow at best.

My focus has been to promote a Virginia geographic information network by working from the county to city level up rather than from the top down. I believe that this directin is most likely to get the support of the public and, thus, from the legislators. To do this, VAMLIS and the GIS community, working through VGIN, must establish policies and standards that will foster this. These policies and standards must take into account that advanced systems that are already in place in, perhaps, 20% to 30% of the counties and cities and they must also take into account conditions in poor or rural counties and cities.

To provide the majority of counties and cities I have proposed a matching fund program by the state that would provide up to \$100,000 in matching grant funds to develop a city or county-

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fund program by the state that would provide up to \$100,000 in matching grant funds to develop a city or county-wide parcel based GIS. I have focused on the parcel based GIS because this is one of the most useful coverages at the county and city level and the one that can benefit the most people by getting it into a digital GIS format. This is also the GIS coverage that I believe would be most logical for the state funding since the state has assumed some responsibility for the tax parcel mapping function through the Commissioners of Revenue who are agents of the Commonwealth. An alternative to providing the matching funding would be to fund the Department of Taxation so they could improve and accelerate their efforts. I believe that the matching funding would provide more value to the counties and cities since they could tailor the development of the GIS to provide for the many other uses that this technology has in local government. While the state funding would be focused on the parcel base, the local government would have great latitude to build other coverages and uses on the parcel base much as many counties have done with their E911 bases.

VGIN should focus on standards that deal with accuracy and content so that, when the county systems are aggregated into a statewide system or when users move from county to county, the utility of GIS is not lost or compromised. This is and will be a contentious issue but strong, thoughtful and informed leadership is needed from the state level to make the system useful to all. Where changes are needed in existing systems which have been funded locally or where state needs exceed local needs, state funding must be provided to achieve the minimum level of uniformity needed for efficient use of resources statewide.

One example that illustrates the type of issue we will face is the accuracy requirement of the parcel base. Survey-



ors have a number of regulations dealing with the accuracy requirements of parcels they survey. Presently there are no requirements or standards for aggregating these parcels into the cadastral or tax parcel maps most often used by the public.

Surveyors have to meet rigorous requirements and pass difficult tests to be licensed to create maps of parcels that are then often inserted into a tax parcel map with no accuracy requirements. While I have not been able to devise a method of insuring the integrity of the individual parcels in a tax map I do believe that we must specify the accuracy of the base mapping that these parcels are inserted into. While accuracy was not important when the tax parcel mapping was used independently it becomes vitally important when the tax parcels are a layer or coverage in a GIS. We have the capability of developing accurate base maps of visible physical features such as roads, streams and structures and we need to specify the accuracy of this mapping to use as a base for parcel lines which generally cannot be mapped in this way. Increased use of Global Positioning Systems (GPS) will bring this issue to the forefront but will also provide a solution to improving the accuracy of the parcel coverage itself. VGIN needs to provide guidance to local governments on how to deal with the accuracy so that the county and city systems now being developed don't become islands unto themselves.

GIS is a technology that benefits greatly from inclusiveness, coordination and cooperation. Use of GIS by the public is also greatly enhanced by such phenomena as the telecommunications revolution and, specifically, the Internet. As the logical coordinating body at the state level we welcome your suggestions and participation as we forge ahead in trying to provide leadership and service to the citizens of the Commonwealth in the GIS arena. ♦