

## **In-Depth Survey/Interviews with Local Government GIS Leaders**

Conducted by: Alan Leidner, President, NYC GISMO

### **Listing of those participating in the survey and interview process**

- 1) Ray Ward, GIS Director, Greene County, Regional Group: Catskills
- 2) Mike Ross, GIS Director, City of Rochester, Regional Group: GIS SIG
- 3) Bill Ostrander, GIS Director, Tioga County, Regional Group: Southern Tier
- 4) Thomas Hynes, GIS Director Ulster County, Regional Group: Catskills
- 5) Sheri Norton, GIS Director Ontario County, Regional Group: GIS SIG
- 6) Jim Jones, GIS Director and Town Engineer, Town of Tonawanda, Regional Group: WNYSGIS
- 7) Doug English, GIS Director Broome County, Regional Group: Catskills
- 8) Jeff Quackenbush, GIS Director, Oneida County, Regional Group: Adirondacks/Central NY
- 9) Sam Wear, GIS Director Westchester County, Regional Group: Westchester GIS
- 10) Star Carter, GIS Analyst, DANC, Regional Group: Adirondacks
- 11) Ross Baldwin, GIS Director, Town of Southampton, Suffolk County, Regional Group: LIGIS
- 12) Mickey Dietrich, GIS Coordinator, Tug Hill Commission, Regional Group: Tug Hill/Adirondacks
- 13) Dr. Janet Marsden, Dep't of Civil & Env. Engineering, Syracuse Univ: Regional Group: Central NY

### **Emerging GIS: In Depth Interview Summary Results**

#### **Major Findings:**

##### **From Personal Experience**

- Interviewee experience ranged from 7 years to more than 25 years. The average was about 18 years.

##### **Stumbling Blocks**

- Lack of understanding by elected officials and non-GIS managers of the power and effectiveness of GIS
- Insufficient resources for applications implementation, GIS infrastructure, staffing to realize the full benefits of GIS.

##### **Relationship between County GIS and Municipal GIS**

- In many cases the establishment of an enterprise GIS at the County level is a pre-requisite for effective use of GIS at the municipal level.
- For the many municipalities without GIS personnel or the capacity to develop GIS applications, County can host apps that are commonly needed. Municipal data gathering can be valuable to Counties and the State.
- County should support municipal GIS by collecting, organizing, integrating data and making it available
- Collaborative approach between counties and their municipalities is best.
- Typically, within a County with a strong enterprise GIS there will be one or several municipalities also with strong enterprise GIS and good County/Muni collaboration. The County will also provide GIS services to municipalities too small or without the resources to provide GIS services for themselves.

- There are several models for Regional/County/Municipal GIS:
  - Strong counties that collaborate with strong municipalities, but also provide GIS services to municipalities that are unable to provide GIS services for themselves.
  - Strong counties that have entered into a service provider relationship with adjoining counties without their own GIS operations.
  - Regional Planning Organizations that provide GIS services to a grouping of Counties and their municipalities.
  - Regional Development Organizations that provide GIS services to a grouping of Counties and their municipalities such as DANC and Tug Hill.
- Entities supporting county and municipal GIS fall into two categories: 1) Providing the GIS services to local governments directly 2) Building capacity in County and local governments so they can provide for themselves. Both methods are relevant.

#### **Most effective arguments to sell GIS**

- Satisfied important business needs (emphasis by Sam Wear but all others as well)
- Increase the effectiveness of local government operations and save money.
- Improved productivity and operational efficiency and effectiveness
- Realtors, related businesses and the public love parcel maps and property information on line.

#### **Useful State efforts**

- General satisfaction with many of the State's data layer creation efforts. However, most acknowledge that it is difficult to access the data because it is in so many different places and in different formats.
- It would be very useful to gather together the data in individual state agencies which is often in different silos. The current clearinghouse can be difficult to use especially for non-GIS personnel.
- Imagery collection is top rated. Also street centerlines and addresses,

#### **Collaboration with State personnel**

- General satisfaction with State GIS support however even more would be appreciated. IT, DOT, DEC, State, DHSES noted. In some advanced GIS counties and municipalities local governments, state efforts to build state wide data conflict with already existing local data standards.

#### **Useful Federal program**

- Many mentioned FEMA flood mapping, stream gauges, census data, NOAA weather data. Some mention of HIFLD/HSIP data.

#### **Useful NYS GIS Association services**

- Positive mentions included professional development webinars, GeoCons and Summits, training, Regional committee, Website/communications

#### **Most popular applications**

- Public safety applications especially 911 support, property assessment/management, and parcel management, asset management, water/sewer/roadway infrastructure, public info apps, mentioned most frequently.

### **Under budget pressure to reduce headcount**

- Generally not. Most GIS operations are very lean and provide benefits that are appreciated. However, additional staff while desirable is not being provided. Some local governments are maintaining staff through grants.

### **Applications you wish to implement in the future**

- Mobile computing, web services to government staff and to the public, use of cloud computing to reduce server and SW maintenance.

## **B. From a State-wide Standpoint**

### **Is GIS underutilized**

- Unanimous YES

### **Jurisdictions that lack GIS**

- Many municipalities

### **Major obstacles from a state-wide perspective**

- Many factors combined included lack of understanding by elected officials and lack of resources. For strong GIS programs you often find strong IT programs that support GIS. In some instances GIS is held back by time consuming IT procedures.
- Lack of funding

### **County/Municipal relationship**

- Should be collaborative...mutually supportive...with Counties aggregating and serving data and hosting applications when necessary. Municipalities collecting data needed by the county.

### **What would contribute to GIS growth**

- Increased funding for staff and technology, easier access to data and applications, greater state support, greater political support, greater coordination and collaboration between jurisdictions.
- Many jurisdictions have benefited from grants given by state agencies to improve data and data sharing. SARA grants, DEC grants, ORP grants each seek to enhance local data quality in part because the state agencies need accurate local data. Grant givers should be recognized and encouraged to continue/increase their funding. Perhaps an inter-agency strategy for supporting local GIS should be designed.
  - A number of interviewees specifically mentioned SARA grants to convert water and sewer infrastructure from CADD and paper maps into GIS format for sharing across the county, with municipalities and with the state. Some interviewees still needed to do this and were looking for grants to enable.

### **Most promising GIS application areas**

- Numerous mentions including: field data collection, revenue collection, public safety, infrastructure management, utility information, support for a wide variety of field personnel, vehicle tracking, providing information to the public and getting crowd sourced information.

### **What can State GIS do**

- Improve/simplify access to State data and State agency data by re-engineering the State Clearinghouse.
- Continue to build valuable state-wide databases such as SAM and the parcel layer.
- Contribute to the development of local applications – especially if those apps can be used to simplify state reporting requirements.

**What can NYS GIS Association do**

- Work to create a truly collaborative GIS community across the state at all levels of government
- Work to get grants and other funding for valuable local government GIS programs.

**Vision**

- GIS built via collaborative methods and utilized at all levels of government to achieve its full potential value to the State and its citizens.

## Major Recommendations:

- 1) **Public Relations:** Develop various materials for distribution across NYS that explain GIS to public officials and non-GIS managers. It has been agreed that the development of a video showing real public officials describing applications with business value is an excellent first step. This video is now in production under the management of Mickey Dietrich. Field demonstrations of applications will be part of the video. Related ideas:
  - a. Create a “How To Implement” GIS video.
  - b. Develop a video template/set of instructions so that jurisdictions and GIS providers can develop videos that showcase their programs and applications.
  - c. Carol Zollweg’s effort to video GIS practitioners at the 2015 GeoCon is very promising.
  - d. Send speakers (and videos and written material) to meetings and conferences of local government officials. NYS Association of Towns was one such organization mentioned by a number of interviewees.
  - e. Establish relationships with GIS publications and get articles written about NYS GIS progress and plans.
  
- 2) **State central GIS data store:** Almost all interviewees agreed that State GIS data was very valuable and transforming the current NYS GIS data clearinghouse was important. They envisioned a central /cloud server where state-wide foundation and framework layers could be stored for easy access at the municipal and county levels. Services could be provided and the means developed to enable local data and state data to be easily used together. This could have a transformative effect for jurisdictions with no GIS infrastructure at this point. It could make hundreds of municipalities without GIS services into GIS users.
  - a. A technical committee, perhaps coming out of the GAC, should develop a series of design alternatives for consideration.
  - b. Key to expanding GIS use in NYS is lowering the technical and financial thresholds for GIS use. Using cloud data storage and services with simple viewers, common services, and shared applications are means to that end.
  
- 3) **Regional/County/Municipal collaboration:** There was general agreement that the whenever possible county and municipal governments should band together, including regionally, to combine data, develop common business applications, train users and procure software and hardware when necessary. In rural areas where municipalities often lacked financial and technical means, the county could act as GIS service providers. In areas where municipalities could play a leading role, county/municipal relations could be more collaborative and reciprocal. DANC and Tug Hill provide good models for a regional approach. Regional planning and State development authorities also operate as GIS service providers. GeoCons and Summits should be used to bring local government GIS managers together to share and collaborate.

- a. The publication of county and municipal applications coming out of the GeoCon Awards Competition is a good step forward to promote collaboration.
  - b. State agencies need good local data and therefore have a stake in promoting local GIS. State agency grants are used for this purpose. This kind of State/Local collaboration where both benefit should be more fully explored.
  - c. At future GeoCons and Summits have panels of County/Municipal/Regional GIS leaders to compare and contrast different methods of achieving GIS use.
  - d. Some counties with strong GIS programs have service contracts with adjoining counties and with their municipalities. These agreements should be explored and made available as models for others who may wish to go in this direction. It would be good to have a map of the state that showed the GIS status of each county and the larger municipalities.
  - e. County political leaders emerge from and are elected by citizens living in municipalities. It makes sense for County GIS operations to maximize services to their municipalities to create good will – and operational benefits – that could be reflected in greater political support down the road.
  - f. County and municipal GIS managers serving on the GAC could organize a state-wide committee of local GIS managers to widen the feedback loop for State policies and local GIS needs.
- 4) **Business applications:** There was general agreement that in the final analysis, it was the GIS based business applications that proved the value of GIS. In particular, interviewees thought that a simple, common application based on GPS enabled cell phone apps would be valuable for a broad spectrum of applications that would create real value for municipal and county operations of all kinds including public safety, asset management, social service delivery, property management, collections, and environmental protection. If a series of common components could be built for a mobile application with wireless access to back office data, it could definitely prove the value of GIS and could significantly increase GIS use across the State. Improved field data collection capabilities are also valuable to a number of State agency operations and reporting requirements.
- a. A number of interviewed GIS managers cited the value of the ESRI “collector” application.
- 5) **Return on Investment Analysis:** While not endorsed by everyone, some believed that by providing quantitative measures of ROI/cost benefit for GIS applications, acceptance of GIS would be increased along with greater willingness to expend funds for GIS based projects.
- a. Several submissions to the GeoCon Applications Awards competition contained good ROI information that could be the start of a more comprehensive quantification.
- 6) **Political engagement:** Once we know the kinds of GIS policies and programs we want to advance, we should start to promote a GIS agenda to state and local leaders and top managers through means that include lobbying, presentations at a variety of local government oriented conferences, and working with news organizations. The Geospatial Advisory Council (GAC) can be used as a platform to encourage beneficial State GIS policies.

- a. The NYS GIS Association is beginning to develop a variety of videos that can be used to better explain the value of GIS and build support among a number of constituencies.
- 7) **Application sharing:** There was general agreement that information about successful GIS applications should be shared across the state, and that application code and components should be shared if possible. (Should there be a GIS “starter kit” for local governments where needed including data, open software, simple applications and training?)
- 8) **Funding and Grants:** Almost every local government interviewed cited the benefit of State grants that were used to build GIS data, applications, infrastructure and hire staff. The NYS GIS Association should document these programs and work towards their continuation and expansion. The Association can search for other possible sources of grant money.
- a. Monroe County charges a tax surcharge to support GIS operations. Others might be interested in learning about this.
  - b. Community Development Block Grants (CDBG) have also been used for GIS development.
- 9) **Training:** There was general agreement that the NYS GIS Association could be instrumental in helping to organize GIS training at various levels of technical rigor. Training could be at the levels of the end user, central office coordinator, and technical director. The Association’s Education Committee with links to all state colleges with GIS courses and programs could be key. “Common Core” training could be rolled out by colleges in each county or region, customized for the specific needs of those areas. Online courses could be provided.
- 10) **Staffing:** Identify potential sources of funding for additional staff including foundations and other institutions that provide grants. Use the State’s colleges as a source of GIS interns for local governments.
- a. Several jurisdictions (Rochester, Utica County) have developed their own GIS title specifications which could be posted to the Association’s website.

## **NYS GIS Association: Current Efforts Being Undertaken to Support the Emerging GIS Program**

- **Emerging GIS Project**, funded via a \$10K grant from the Fund for the City of New York and through the volunteer efforts of dozens of Association members. Hundreds of Association members will have responded to questionnaires about their GIS use and needs.
  - Mickey Dietrich and his local PBS station have produced an initial video of GIS field applications in North County as the first of what could be a number of similar videos showing GIS applications from across the state, and providing jurisdictions with guidance about how to move forward with GIS.
  - The Association has received more than 225 on line surveys back from members about their GIS status and ideas to increase GIS utilization. So far twelve in depth interviews have been conducted, written up...and generalized into this document.
  
- **Regional Coordination Committee:** Supports the work of regional GIS organizations and encourages those organizations to reach to the local government levels. The Committee has produced a Compilations of Regional GIS Services and Programs supported by the Association. The Regional Committee should consider ways of getting County and Municipal GIS managers actively engaged.
  - The Regional Committee has been the source of many of the in depth interviews conducted for the Emerging GIS project and many of the Regional POCs contributed to the Applications Awards Contest.
  
- **GeoCons 2015:** The Albany 2015 GeoCon will have activities that support the Emerging GIS project including a brainstorming session and the filling out of questionnaires to gather more data. Conference sessions will enable technology transfer of applications and techniques.
  - Carol Zollweg will lead an effort at the conference to capture on video the knowledge and experience of GIS leaders from across the State.
  
- **Professional Development:** Webinars that provide information about GIS applications are a good way of spreading GIS technology across the state.
  - Through surveys conducted as part of the Emerging GIS project a number of potential webinar topics have been identified could be of use to GIS development across the State.
  
- **Awards Program:** The new applications awards category is a way of spreading the word about useful applications at the county and local level. At the 2015 GeoCon there will be about seventeen applications being considered for awards. All submissions will be



published on the Association's website and the most promising applications will likely be presented via webinar.

- **Education Committee:** Is in position to help shape GIS education programs across the State to give appropriate levels of training to the different kinds of users and GIS practitioners.
- **Board of Directors:** NYS GIS Association Board members comprise the Emerging GIS Project management team.