

1.0 Abstract

The paper presents a summary of an interactive panel discussion organized by the New York State Geographic Information Association (NYSGISA) at the annual New York State GIS Conference held in Rochester, New York. The panel focused on the potential to grow the geospatial information technology business sector in New York State, consisting primarily of remote sensing, aerial photography, geographic information systems and global positioning systems. The panel included the perspectives of representatives from the education community, the business sector, and the professional economic development community. Immediate, mid-term, and long range recommendations are presented.

2.0 Introduction

Purpose

The panel was organized to focus discussion on the potential to grow the geospatial information technology (GIT) business sector in New York. The growth of the GIT business sector was articulated as a fundamental interest of the newly created New York State GIS Association (NYSGISA) as recently as the April and June 2005 meetings, held respectively in Auburn and Albany, New York. NYSGISA has developed as an organization because of the determined efforts of a small number of individuals who have met tirelessly over the past two years. Recognizing the benefits of organizing private sector members of the GIT industry in New York, Sam Wear, Westchester County GIS, has served as a facilitator on behalf of the NYSGISA in outreach to the GIT business community. (An equal interest of NYSGISA is the provision of and encouragement of various GIS/GIT educational and training opportunities.) The panel therefore presented at the 2005 annual New York State GIS Conference on October 18, from 8:30 to 10 a.m. on behalf of NYSGISA.

The New Economic Development Partnership

Mr. Brower opened the session with a welcome to the fourteen participants who attended and a thank you to NYSGISA for its endorsement of and help with the panel organization. He introduced Mr. Sam Wear who attended and participated in the session as a representative of NYSGISA.

Brief comments were then made by Mr. Brower on an emerging paradigm within the economic development community that champions the involvement of the education community as an essential element in sustained, community-based economic development activity. The educational voice thus adds to the policies derived from the perspective of the private sector and the economic development activist. Government's role is seen within this paradigm as facilitating economic development, not supporting it

directly. Thus, as has been acknowledged for years, government policy speaks to the creation of adequate infrastructure in a way that encourages economic activity (e.g. roads, landfills, and water and sewer facilities). It remains the role of the private sector to take advantage of such infrastructure and create the jobs which are in turn the engine for sustainable growth. Thus the interactive panel was structured to present the perspectives of the following people representing the educational community, the private sector, and the professional economic developer.

Panel Participants

The NYSGISA panel was conceptualized and moderated by Robert Brower, CEO of the Institute for the Application of Geospatial Technology at Cayuga Community College, Inc. (IAGT) in Auburn, New York. IAGT is a not for profit corporation that seeks to advance the deployment of geospatial technologies in the business community, in government, and in the education community. (Please see GIT definition on page 3.)

Dick Kaplan is the CEO of Pictometry Inc. of Rochester, New York. Mr. Kaplan is widely credited with turning around Pictometry and creating its current very bright economic future. Pictometry produces high resolution aerial imagery and software for government and private sector users including both ortho and oblique aerial imagery.

Dennis Golladay is the President of Cayuga Community College, one of the few community colleges in the nation that offers an Associate Degree in geographic information systems. Dr. Golladay is President of the statewide Association of Presidents of Public Community Colleges (APPCC), a member of the advisory committee to the SUNY Vice Chancellor for Community Colleges and on the SUNY Community College Strategic Plan Task Force.

Brian McMahon is the Director of the New York State Economic Development Council (EDC), and the former Director of the New York State Small Business Development Council. EDC is New York's principal economic development organization, representing some 900 economic development professionals. Mr. McMahon frequently functions as the spokesperson to Congress and to the New York State Legislature on issues affecting New York's business investment climate and economic development programs.

General Description of Discussion (methodology)

The panel was interactive by design, with brief opening statements by Mr. Brower. He deferred to Brian McMahon, who amplified the importance of the partnership between the education community, the private sector, and government by pointing out the systemic difficulties that impede economic development in New York State. Guided by a largely "laissez faire" moderation by Mr. Brower, the participants began to offer and

respond to individual perspectives in three major discussion areas. Attention was directed first to defining the geospatial industry and then to identifying the impediments and opportunities in relation to the growth of this industry in New York State. The third and final discussion area, which included participants of the workshop as well as the panelists, focused on identifying follow up activity and determining "...the next steps." Workshop participants offered occasional comments and insights during the first two discussion areas, although they were asked, for the sake of timing, to hold back if possible, until the third discussion area. Workshop attendee participation in the discussion on "follow-up activity" was robust and continued past the conclusion of the session and into the break that followed.

The following narrative is offered as a summary of major points made during the panel, without attempt to assign points to individuals, either from the attendees or the panelists, as would be typical in the style of a summary of proceedings. Rather, the summary of major points was synthesized by the author from all comments made, and then reviewed by the panel participants for concurrence and accuracy. The author nevertheless assumes all responsibility for any misrepresentation, error, or omission in the final text.

Alternative summary views and additional responses are welcomed by the NYSGISA panel organizers and participants. It is the intent of NYSGISA to publish the panel summary on the website and enlist additional comments and insights and move toward the proactive development of the geospatial industry in New York State. You may send comments directly to the author at info@iagt.org. Additional attention to the material contained herein is expected at the spring 2006 meeting of the New York State GIS Association.

3.0 Defining the geospatial business sector

There were two primary points developed during the discussion on defining the geospatial business sector, as the following bullets indicate:

- There is a need for a clear definition of what is meant by the geospatial information technology (GIT) industry in New York State.
- Assuming, for the sake of discussion, a definition from the Geospatial Workforce Development Center at the University of Southern Mississippi (see the following) we can estimate the size of the industry as a five billion dollar market in 2002, with an expectation of growth to 30 billion by 2005. Roughly two-thirds of this represents the remote sensing market and one-third of this represents the market for geographic information systems.

(Note that the following definition was not offered during the panel discussion. The geospatial industry can be defined as, "...an information technology field of practice that acquires, manages, interprets, integrates,

displays, analyzes, or otherwise uses data focusing on the geographic, temporal, and spatial context.” It also includes development and life-cycle management of information technology tools to support the above.”

Source: Geospatial Workforce Development Center at the University of Southern Mississippi.)

4.0 Summary of Impediments to Growing the GIS Industry-- Governance, Taxation and Regulatory Issues in NYS

There were three major impediments to the growth of the GIT business sector in New York State described during the discussion.

- Systemic impediments exist in New York to all economic development retention, expansion, and attraction efforts, including those that could be focused on the GIT business sector. Perhaps the most serious of these impediments are anti-business taxation policies, fee structures, and the scale and scope of regulatory activity impacting the business community.
- The complexity and scope of governmental organizational structure is in itself an impediment to all forms of economic development in New York. This basic form of inefficiency generates both higher than required costs and less than satisfactory service. In short, the many layers of government in New York result in ineffective governance and diminish the capacity of government to play the traditional role of facilitator of economic development. New York residents pay higher taxes than required and receive poor services in return.
- Local workforce development boards seem bound to efforts focused on filling vacant positions and this limits attention to efforts intended to create new positions or to enhance the productivity of existing positions through GIT training. Little interest in such training programs is anticipated in local workforce development boards and the prospects for funding seem slight. There is little if any understanding of GIT at the local workforce development level, let alone its potential economic impact.

5.0 Summary of Opportunities

Educational Excellence and Existing Infrastructure

There were six major dynamics affecting the potential to retain and expand the GIT business sector in New York described during the discussion.

- New York State enjoys an excellent publicly funded post-secondary educational structure in the form of the State University of New York (SUNY), including by definition the Community College community of New York.
- The geospatial industry has been identified by the federal government as a high growth industry, although it is an industry hindered by special workforce development requirements.
- Particular interest now seems to exist at the federal level to help grow the geospatial information technology (GIT) industry, and the community college campus has been identified as the training venue of choice through which to address demand driven training needs.
- Aside from opportunity afforded by the existence of a robust publicly funded post-secondary education community in New York through which geospatial workforce development training could be provided, additional opportunity exists to encourage the growth of the private post-secondary education community.
- The reduction, if not absence, of, taxation and regulatory impediments to the growth of the private post-secondary education community in New York provides a very compelling and unique economic development opportunity. In simple terms, the opportunity exists to grow the education community by developing a very specialized focus on geospatial technology education and training. New York could become the geospatial training center for the nation, perhaps for the world.
- Further opportunity exists within the educational community to integrate geospatial technology into a range of domains resulting in both an enriched learning environment for students and, in the case of advanced degree work, an enhanced potential for discovery within an ever-expanding range of disciplines.

6.0 Summary of Recommendations and Possible Next Steps

Introduction

The following narrative is derived from the final section of the panel when attendees were fully engaged in the discussion with panel members about the next steps to be taken. The material resulting from this final section is organized in three areas, those being: immediate action, mid-term efforts and long-term efforts. The comments generated

during the discussion seem to allow such a “reporting” framework, but it may be instructive to note that the discussion did not occur in these subsections, either in sequence or by content. The framework is simply used to organize the reporting of a more “free form” discussion, moderated (after the introduction) solely by the simple common courtesies of the participants.

Having previously offered a definition for geospatial information technology (GIT), it is assumed that this definition could be refined and specific businesses could be located and contacted. Further, it is noted that the “next steps” reported include those that could be classified as retention or expansion, (focusing on GIT businesses already in New York), as well as those that could be classified as attraction (focusing on bringing new businesses into New York State). These are important distinctions to economic development professionals. Since we are reaching out to a larger audience of readers, the “Recommendations and Possible Next Steps” narrative is presented simply as described above. Because all requisite efforts begin with the need for a clear definition for GIT, it is reproduced again exactly as reported elsewhere.

The geospatial industry can be defined as, “...an information technology field of practice that acquires, manages, interprets, integrates, displays, analyzes, or otherwise uses data focusing on the geographic, temporal, and spatial context.” It also includes development and life-cycle management of information technology tools to support the above.” *Source:* Geospatial Workforce Development Center at the University of Southern Mississippi.

Immediate Actions

Five steps could be taken immediately to encourage the growth of the geospatial technology business sector in New York State.

- Using the definition above, as modified and applied in New York State, current members of this business sector could be identified, located, and contacted as the foundation for two types of economic development activity traditionally referred to as retention and expansion.
- Seek the expertise to define the current economic impact of the geospatial business sector in New York State.
- Identify the private sector players in NY included in this definition.
- Bring together a representative group of the private sector players.
- Acquire consultant expertise to engage this business group and determine retention, expansion, marketing and attraction

needs, and subsequently recommend such New York State policies and programs (including associated monitoring to gauge program effectiveness) as are needed to facilitate the retention and expansion as well as the attraction of additional members of the targeted GIT business sector.

Mid-Term Efforts

Three steps could be taken to supplement the efforts recommended above to begin to encourage the growth of the geospatial technology education and training capacity in New York State.

- Bring together a representative “core” group of the publicly funded and privately funded post-secondary educational community from New York State
- Acquire consultant expertise to engage this educational group and determine, and subsequently recommend, such New York State policies and programs (including associated monitoring to gauge program effectiveness) as are needed to define and grow a GIT based training and educational industry in New York State
- Engage and enlist all appropriate economic development groups to help with this effort and reach out with such appropriate efforts as are required to enhance an understanding of such GIT growth potential as has been defined

Long-Term Efforts

Three steps could be taken to supplement the efforts recommended above to mitigate the impediments to the growth of the geospatial technology business sector in New York State.

- Encourage and otherwise support such efforts as are intended to reduce the complexity of representative governance in New York State
- Encourage and otherwise support such efforts as are intended to reduce the regulatory complexity that is affecting businesses in New York State
- Encourage and otherwise support such efforts as are intended to reduce the tax burden on New York State businesses