Pennsylvania State Geospatial Coordinating Board

2017 Annual Report

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SHARON P. MINNICH,
SECRETARY

I am pleased to present the 2017 annual report of the State Geospatial Coordinating Board (GeoBoard).

The accomplishments of the GeoBoard reflect the leadership, experience and dedication of the board members who represent a variety of stakeholders and perspectives related to geospatial technologies. The GeoBoard's efforts rely on the ability of these stakeholder members to come together and work towards common goals; their success in doing so is evident in the GeoBoard's accomplishments.

During the past year, the GeoBoard has made significant progress in its goals to develop and approve a strategic plan, establish single data sharing agreement that can be utilized throughout PA, identify authoritative spatial data layers and their stewards to support a core base map, implement a governance framework to drive a strategy for coordinated funding of statewide GIS programs, and continue outreach and education at a variety of stakeholder events. These efforts will set the foundation for continued growth and success in 2018 and beyond.

I would like to thank the board members for their participation and dedication to the mission of the GeoBoard to improve the business outcomes using geospatial capabilities.

Sharon P. Minnich
Pennsylvania Office of Administration

ABOUT THE GEOBOARD

The Pennsylvania State Geospatial Coordinating Board (GeoBoard) was established in 2014 under Act 178 to:

> *"Provide advice and recommendations to the Governor and the citizens of this Commonwealth on geospatial issues and provide uniform data standards, coordination and efficiency in geospatial policy and technology issues among Federal, State and local government agencies, academic institutions and the private sector."*

According to Act 178, the GeoBoard has the following powers and duties:

1. *Recommend data development priorities and interoperability standards for data sharing across agencies and different units of government across this Commonwealth.*

2. *Monitor national and state trends, identify issues of potential interest and concern to the Commonwealth, and submit annual reports to the Governor and the General Assembly and other reports as necessary.*

3. *Define and prioritize strategic opportunities where maps and spatial analysis activities could enhance the business of government and provide more cost-effective services to citizens. This may include recommendations of specific geospatial technology investments in the Commonwealth.*

4. *Develop task forces as needed to formulate recommended positions or actions. The task force membership may be comprised of board members or designees appointed by the board. The board shall consider any task force recommendations at its next meeting.*

VISION STATEMENT	MISSION STATEMENT
Through the work of the GeoBoard and its partners, geospatial activities throughout the commonwealth will be enhanced through open communication, collaborative efforts, unified planning, and coordinated implementation, resulting in effective and efficient use of Pennsylvania's geospatial resources.	The GeoBoard shall provide advice and recommendations to the Governor, the General Assembly, and the public on geospatial issues, uniform data standards, coordination and efficiency in geospatial policy, and technology across different sectors.

GEOBOARD LEADERSHIP TEAM

The Leadership Team is an unofficial title given to the collective group comprised of the GeoBoard Chair, Vice Chair, and all task force chairs. The Leadership Team strives to ensure GeoBoard operations comply with the intent of Act 178 and with commonwealth requirements for advisory boards. Additionally, the Leadership Team acts as a focused communication platform where they engage in open dialogue, debate, and frequent interaction to advance the mission of the GeoBoard.

TASK FORCES

As identified in Act 178, the GeoBoard may develop task forces as needed to formulate recommendations and perform actions. At the Board's initial meeting in March 2016, the GeoBoard created three task forces in accordance with the authority set out in the enabling legislation. The current task forces are: Service Delivery, Data Program, and Governance. The GeoBoard formally adopted charters that guide the task force activities. Task force meetings occur as needed, with certain task forces meeting as frequently as twice a month in 2017. Task force members are volunteers from within and outside of the GeoBoard, including members from local, county and state government agencies, academia, and the private sector. Task forces can choose to form one or more working groups to focus on key goals and objectives.

Image credits: Lancaster County: Accidental Drug Overdoses Web Map, and South Central PA Opioid Awareness Coalition
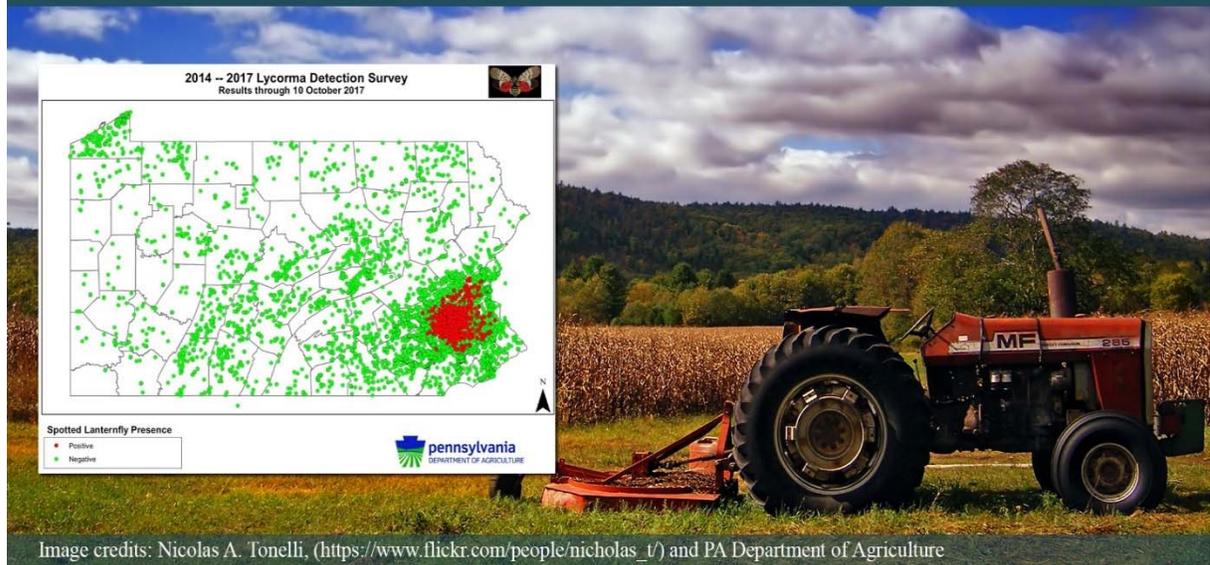
HIGHLIGHTS

The following list represents important GeoBoard highlights from 2017.

Created a basic structure and environment in which the GIS community in Pennsylvania believes that our collective action will be fruitful.

Developed a strategic plan intended to foster a collaborative, purposeful, and effective approach toward GIS. This approach will benefit not only GIS stakeholders but also all residents of Pennsylvania with the development of more effective and efficient geospatial services in the present and future.

Led a workshop at the 2017 Annual Fall County Commissioners Association of Pennsylvania (CCAP) Conference to discuss the benefits of openly sharing data and developing a unified agreement that supports widespread and inclusive intergovernmental data sharing.

Kicked off the opening general session of the 2017 PA GIS Conference with a roundtable discussion on current GeoBoard initiatives and building partnerships to strengthen GIS in Pennsylvania.

Joined with Pennsylvania Spatial Data Access (PASDA) for a user feedback session to discuss what types of data, services and applications are needed to provide a cohesive, comprehensive, and integrated clearinghouse to meet the state's current and future needs.

Hosted guest speakers from the U.S. Census Bureau, the Homeland Infrastructure Foundation-Level Data (HIFLD) portal, the U.S. Geological Survey (USGS), and heard reports from representatives on the GeoBoard about National Emergency Number Association (NENA) standards, the PEMA imagery acquisition, and more.

Conducted a Stage 1 analysis that included identifying authoritative sources for eight of the 12 core base map layers.

Continued the development of an inclusive data sharing agreement that can be used to facilitate the sharing of data between government entities as well as academia, business, and non-profit organizations.

Formed a Subcommittee under the Governance Task Force to review legislation and its relevance to the GeoBoard's mission.

Fostered the development of broad-based working groups (state, federal, and local government agencies and private partners) focusing on key data development themes including: a Civic

Boundary Working Group to unify datasets with distinct versions of the same data (DOT, DCED, U.S. Census, county GIS professionals, PaMAGIC, PSLS); a NextGen 9-1-1 GIS Working Group to assess readiness and encourage excellence (PEMA, DOT, OA, county GIS professionals, CCAP); a LIDAR Working Group to discuss issues and initiatives related to acquisition of high quality LIDAR (DCNR, PEMA, PaMAGIC, USGS, NRCS, and other stakeholders); and supported an existing Water Data Initiative to modernize surface water mapping (PaMAGIC, USGS, DEP, county GIS professionals).

GIS In Action: Controlling Invasive Pests

Image credits: Nicolas A. Tonelli, (https://www.flickr.com/people/nicholas_t/) and PA Department of Agriculture

ACCOMPLISHMENTS

Development of a Strategic Plan

Members of the Governance Task Force led the development of a comprehensive geospatial strategic plan for the GeoBoard which will serve as a guide for the future progress of geospatial activities within the commonwealth. The Commonwealth of Pennsylvania has never had a relevant, comprehensive, and inclusive GIS strategic plan before. By creating this strategic plan, the GeoBoard and the commonwealth's GIS community intend to develop a collaborative, purposeful, and effective approach toward GIS that will benefit GIS stakeholders and Pennsylvanians.

The strategic plan lays the foundation for the future of Pennsylvania's GIS environment through the creation of goals and objectives developed during the 2017 planning process. That process included research and review of existing GIS strategic plans from other states, as well as a public input process to supplement input from the GeoBoard members. The plan details the status of GIS including past accomplishments, current challenges, and opportunities that the GIS community can collectively address.

Strategic Goals

1. Create a Sustainable Business Model
2. Facilitate the Development of Statewide Authoritative Datasets
3. Ensure and Promote Public Access to Geospatial Data and Services
4. Enhance Collaboration, Cooperation, and Coordination

GIS In Action: Dispatch of Emergency Responders

Image credits: Joshua Smith, (https://www.flickr.com/people/egjish/) and County of Chester

Outreach and Engagement with Stakeholders

The Data Program Task Force led a workshop at the Annual Fall County Commissioners Association of Pennsylvania (CCAP) conference that included a discussion on the benefits of openly sharing data and ways to enhance a culture of data sharing between local and state government.

In addition, members of the GeoBoard, including the Task Force chairs, kicked off the 2017 PA GIS Conference with a roundtable discussion at the opening general session. This GeoBoard presentation included a discussion of current initiatives. The presenters also noted that the GeoBoard is interested in working with others to support coordination and partnership building in order to strengthen GIS in Pennsylvania.

In October, the Service Delivery Task Force joined with Pennsylvania Spatial Data Access (PASDA) for a user feedback session. PASDA has been identified as a center of excellence and a vital service for sharing geospatial data in the commonwealth. The half-day session included attendees from state, local, and federal government agencies, nonprofit organizations, business and industry, and academia. The attendees discuss current and future needs and interests related to data, services, and applications, as well as the overarching vision and future direction for the PASDA clearinghouse. This effort will be followed up by additional feedback opportunities for stakeholder groups including an online survey and meetings with focus groups.

The GeoBoard also established a link from the Governor's OpenDataPA website to the PASDA clearinghouse to help foster increased access to data and to make geospatial data more available to all users across the commonwealth.

Developing an Authoritative Data Foundation

The Data Program Task Force has continued to build out the core base map themes that were approved by GeoBoard members in December 2016. Following the adoption of the recommended core base map for Pennsylvania, the Data Program Task Force concentrated on identifying the authoritative sources of the base map data and has completed the Stage 1 analysis. Stage 1 consists of the identification and assimilation of various data sources of the base map layers in their current state. Eight of the 12 data layers were identified as being complete and aggregated and ready to be included in the base map. The four remaining layers have been identified to exist in a non-aggregated state or currently do not exist. Workgroups have been created to begin the development of a sustainable process to gather data for these incomplete layers so that they can be included in the Stage 1 release.

	Core Base Map Themes	
#	**Theme**	**Ready to be included in the base map**
1	Transportation	**Yes** – Stage 1 ready
2	Municipal Boundaries	**Yes** – Stage 1 ready
3	Landmarks	No – further development needed
4	Hydrography	**Yes** – Stage 1 ready
5	Remote Sensing (Imagery)	**Yes** – Stage 1 ready
6	Elevation	**Yes** – Stage 1 ready
7	Structures	No – further development needed
8	Land use	No – further development needed
9	Land cover	**Yes** – Stage 1 ready
10	Geographic names	**Yes** – Stage 1 ready
11	Tax parcels/ assessment data	No – further development needed
12	Monumentation	**Yes** – Stage 1 ready

In parallel to the development of the Stage 1 base map, efforts have been put forth towards developing the Stage 2 base map. Stage 2 will represent the desired state of each layer and will identify the authoritative owner in addition to determining the most applicable attributes for each layer. Workgroups have already been established around elevation and hydrography to identify an approach for developing the Stage 2 datasets.

Development of Data Sharing Agreement

The Data Program Task Force has also worked on the development of an inclusive data sharing agreement for the GeoBoard to recommend be used to facilitate the sharing of data between governmental entities, as well as other data owners including academia, business, and non-profits. A workgroup including legal experts has been created and a draft based on previously issued data sharing agreements used in other initiatives is being modified to meet this objective. The need for a uniform data sharing agreement was part of the Data Program Task Force presentation at the Annual Fall County Commissioners of Association of Pennsylvania (CCAP) conference, as noted above.

GIS In Action: Supporting a Strong Economy

Image credits: Jeff Kubina, (https://www.flickr.com/people/kubina/) and Saint Francis University (https://www.francis.edu)

Review and Development of Recommendations for Relevant Bills

The Governance Task Force created a Legislative Review Subcommittee to review legislation which may impact PA's geospatial community, and to provide recommendations to the GeoBoard. The Legislative Review Subcommittee is an 'as needed' group. Two pieces of proposed legislation were reviewed in 2017. They were:

1. **PA House Bill 1106 which proposed amendments to the Pennsylvania Engineer, Land Surveyor and Geologist Registration Law**
   The Legislative Review Subcommittee conducted a thorough review of PA House Bill 1106. The subcommittee has prepared a recommendation for the full GeoBoard to consider in 2018.

2. **U.S. Senate Bill 1253 titled the Geospatial Data Act of 2017**
   The Legislative Review Subcommittee continues to track proposed changes to the U.S. Senate Bill 1253.

GIS In Action: Providing for Smart Growth

Image credits: City of Sunnyvale (https://www.flickr.com/people/cityofsunnyvale/) and Lycoming County Planning & Community Development Department

TASK FORCES

Service Delivery Task Force

Mission

Evaluate how geospatial services are delivered to various levels of government in Pennsylvania by internal and external providers, evaluate how other states and counties deliver geospatial services, and identify recommendations for GeoBoard consideration on how geospatial services should be delivered to maximize investments.

Key Focus Areas, Challenges, Opportunities

Key focus areas for the Task Force include:

1. Identify existing challenges and formulate recommendations to improve the current environment.
2. Assess existing center of excellence models to improve geospatial service delivery as cost effectively as possible.
3. Establish an approach and recommendation to improve geospatial service delivery in the commonwealth.

Challenges	Opportunities
Limited and sometimes restricted data sharing across boundaries among state, counties, and municipalities	• Enhance cross boundary data exchange and interoperability
Data duplication and incomplete datasets leads to increased cost	• Establish a framework to share data • Identify and recommend approaches to improve GIS service and deliver effective data services • Recommend establishing core metadata standards for service offerings to facilitate the discovery of relevant data and increase usefulness and improve data equality
Data silos and information isolation	• Define extract, transform and load (ETL) services that enable data stewards to update and maintain pertinent information • Communicate with and educate elected officials and leaders across the commonwealth as to the importance and necessity of data sharing, particularly as it pertains to NG911 • Explore initiatives to increase the open sharing of data and enhance GIS capabilities to include more services for public consumption

Challenges	Opportunities
Do the current GIS clearinghouses (e.g. PASDA) meet the goals of providing services to the geospatial community in an effective and efficient manner?	• Review the capabilities of the existing clearinghouses • Perform a gap analysis between recommendations of the task forces and the capabilities • Gather feedback from a broad range of stakeholders to determine enhancements to existing services and to build new services

Data Program Task Force

Mission

Recommend initiatives and approaches for full GeoBoard consideration that remove barriers to sharing geospatial data across the commonwealth and promote cost-effective approaches to data sharing to drive operational efficiencies and value-add solutions.

Key Focus Areas, Challenges, Opportunities

Key focus areas for the Task Force include:

1. Base map for authoritative data themes.
2. Data sharing agreements.
3. Ensuring that existing GIS clearinghouses, such as PASDA, and services promote sharing.

Challenges	Opportunities
No official base map exists today that houses authoritative data layers	• Creation of an official base map will ensure that work products are consistent across various entities. • Reduction of redundant efforts • Promotion of data standards
No single data sharing agreement exists between government entities within the commonwealth	• Encourage sharing • Simplify the task of open sharing of data • Save time and effort by allowing for one master agreement to be used commonwealth-wide
Do the current GIS clearinghouses (e.g. PASDA) meet the goals of facilitating data sharing in an effective and efficient manner?	• Review the data sharing capabilities of the existing clearinghouses • Perform a gap analysis between recommendations of the task forces and the capabilities • Consider financial benefits

Governance Task Force

Mission

Document the geospatial governance process in the commonwealth (to include all governmental entities). For full Geoboard consideration, establish a list of major priorities or initiatives to address the needs of the broader geospatial community, evaluate approaches to accomplishing initiatives within existing budget constraints, identify opportunities for collaboration to meet common objectives, and make recommendations as to the coordination of activities across other geospatial governing bodies.

Key Focus Areas, Challenges, Opportunities

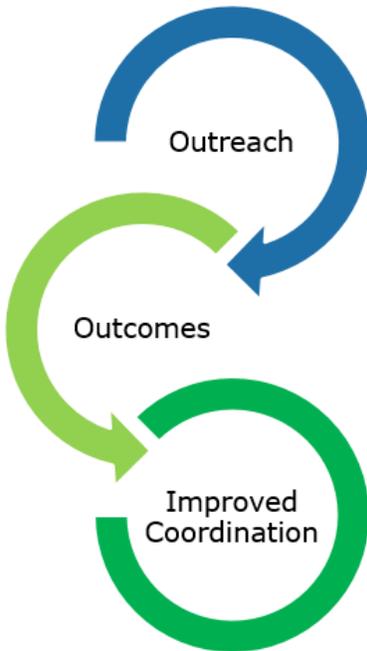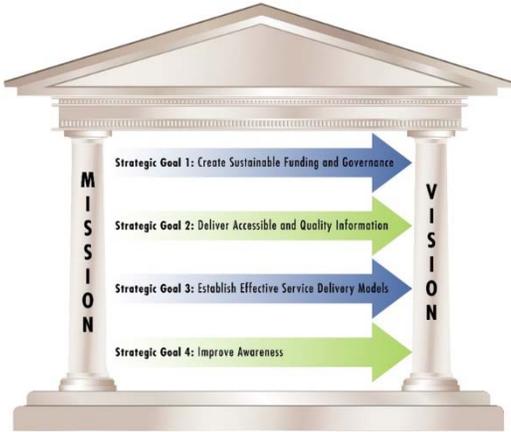Key focus areas for the Task Force include:

1. Assessment of key funding opportunities and a means to disseminate this information.
2. Evaluation of the current state of GIS in PA.
3. GIS strategic plan for Pennsylvania that is concise, accessible, and updateable on a regular/recurring basis.

Challenges	Opportunities
Effective communication about GIS related initiatives and products	• Awareness of GIS activities • Initiative collaboration • Strategic focus to GIS efforts • Reduce duplication • Common datasets and applications repurposed for many needs
There is not a centralized assessment of the current state of GIS across the commonwealth	• Governance ineffective without a clear "state of the state" across all organization types • Potential for major impacts on key issues such as emergency response to natural disasters, impact assessments of natural gas development, cost effectiveness of GIS programs among many other benefits.
Budgets and funding are too limited to make major changes to GIS approaches in PA	• Planning and implementation of changes to PA's GIS infrastructure and management unattainable • For organizations to work collaboratively on a common data and services framework, resources will need to be outlaid to make that happen
Lack of consistent statewide standards for data and dissemination of relative services	• NG911 requirements • Data sharing across all levels of government • Services sharing and integration across all levels of government

LOOKING FORWARD

In 2018, the GeoBoard intends to accomplish the following initiatives

Complete and adopt the *2018 Geospatial Strategic Plan for the Commonwealth of Pennsylvania.*

Begin implementation efforts focused on the goals of the *Geospatial Strategic Plan for Pennsylvania.*

Continue work on the Stage 1 authoritative core base map themes and their stewardship.

Determine the Stage 2 data model and the stewardship for each of the twelve core base map themes.

Finish and adopt the single data sharing agreement and promote its use throughout PA.

Support the development of applications to serve the base map.

Gather additional feedback on enhancing PASDA and develop a plan to implement new services.

Promote the services available for the PA geospatial community to access the core base map themes.

Develop recommendations for resolving local municipal boundary discrepancies.

Develop recommendations for coordinated funding of statewide GIS programs.

Continue outreach and education at stakeholder events.

APPENDIX: Membership

The designees, alternates, and volunteers make the GeoBoard possible and successful.

Voting GeoBoard Members

Current Designee	Organization	Representing
John MacMillan (Chair) Commonwealth CIO	Pennsylvania Office of Administration	Secretary of Administration Sharon Minnich
Sean Crager (Vice Chair) Delivery Center CIO	Pennsylvania Department of Environmental Protection	Secretary of Environmental Protection Patrick McDonnell
Gail Blackmer, Director, Topographic & Geologic Survey	Pennsylvania Department of Conversation and Natural Resources	Secretary of Conservation and Natural Resources Cindy Dunn
Jeff Thomas, Executive Deputy Director	Pennsylvania Emergency Management Agency	Director of the Pennsylvania Emergency Management Agency Richard Flinn, Jr.
Frank DeSendi, Planning Division	Pennsylvania Department of Transportation	Secretary of Transportation Leslie Richards
Matthew Bembenick, Chief of Staff	Pennsylvania Department of General Services	Secretary of General Services Curtis Topper
Danny Ramer, General Manager	City of Sunbury	Pennsylvania Senate, municipal authority
William Hunt II, Director of Planning and GIS	Potter County	Pennsylvania Senate, rural local government
Phil Colvin, Deputy Director, Emergency Management	Lancaster County	Pennsylvania House, county emergency management agency
Kathi Cozzone, Commissioner	Chester County	Governor of Pennsylvania, County Commissioner
Matthew Warner, Geomatics Regional Service Group Manager	HRG, Inc.	Governor of Pennsylvania, Pennsylvania Society of Land Surveyors
Kenneth Juengling, GIS Manager	Pennsylvania Turnpike Commission	Governor of Pennsylvania, data development/sharing expertise
Barry Hutchins, Sr. Public Safety GIS Program Manager	Lycoming County	County Geographic Information Systems Professionals Association of Pennsylvania

Current Designee	Organization	Representing
Dave Gilbert, Senior Project Manager	GeoDecisions	Pennsylvania Mapping and Geographic Information Consortium
Erick Coolidge, Commissioner	Tioga County	County Commissioners Association of Pennsylvania
Howard Hodder, Director of Geomatics	HRG, Inc.	Pennsylvania Chapter of the Management Association for Private Photogrammetric Surveyors

Non-Voting Ex Officio Members

Current Designee	Organization	Representing
Scott Hoffman, Geographer	United States Geological Survey	United States Geological Survey
Bill Kiger, President/CEO	PA One Call System, Inc.	Pennsylvania One Call System
Paul Metro, Gas Safety Manager	Pennsylvania Public Utility Commission	Chairman of Pennsylvania Public Utility Commission Gladys Brown
Craig Thomas, Field Engineering and Operations Manager	Chester County Water Resource Authority	Pennsylvania Municipal Authorities Association
Brian Traylor, Senior Planner	Wallace, Roberts & Todd, LLC	American Planning Association, Pennsylvania Chapter
Maurie Kelly, Director of Informatics and Senior Research Associate	Penn State University	Director of Pennsylvania Spatial Data Access
Adam Repsher, GIS Coordinator	PA State Police	Commissioner of Pennsylvania State Police
Scott Drzyzga, Professor	Shippensburg University	Pennsylvania State System of Higher Education