



# Geospatial Strategic Plan Commonwealth of Pennsylvania

**PA State  
Geospatial  
Coordinating  
Board  
2018**





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## SECRETARY

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I am pleased to present the State Geospatial Coordinating Board's strategic plan.

In 2014 the Pennsylvania Legislature passed Act 178. The Act established the GeoBoard. One of the key objectives of the GeoBoard was to undertake a strategic planning effort to determine the goals and strategies necessary to attain its vision. This strategic plan is the culmination of the efforts of those who contributed.

It provides a framework for improving the results generated from the people, processes and technologies support geo-enabled businesses in Pennsylvania. The framework has four goals: (1) a sustainable business model, (2) development and maintenance of authoritative data sets, (3) enhancing public access to geospatial data and (4) driving coordination, collaboration and cooperation throughout the geospatial community.

I would like to thank the board members for their participation and dedication to the mission of the GeoBoard. As volunteers, you should be proud of your accomplishments and your service to the Commonwealth.

Sharon P. Minnich  
Pennsylvania Office of Administration

# EXECUTIVE SUMMARY

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.”*

The creation of the GeoBoard was in direct recognition of the importance of geospatial technologies in understanding, managing, and governing in today’s world. Emergency response, policing and safety, environmental protection, natural resource management, human services, infrastructure integrity, taxation, and many other sectors depend on geospatial data to make informed decisions. Decisions which all depend on or benefit from the efficient and effective application of geospatial technologies.

## How the GeoBoard Functions

The GeoBoard includes members (Appendix C) from a broad section of interests and organizations, including Commonwealth agencies, local governments, professional associations, legislative representatives, higher education, the private sector, and other stakeholders (Appendix D). The GeoBoard leverages this diverse membership to take advantage of unique opportunities to work collaboratively together on key issues and initiatives. It provides a forum where the needs and interests of the geospatial community can be openly discussed and acted upon. The GeoBoard evaluates priorities and advocates for effective and efficient use of Pennsylvania’s geospatial resources. These priorities are carried to action through the GeoBoard’s primary function: making recommendations to the Governor.

## Purpose of the Geospatial Strategic Plan

The purpose of this Strategic Plan is to lay the foundation for the future of Pennsylvania’s geospatial environment. This was accomplished through an extensive planning process (Appendix A) which set the goals and objectives detailed in this document.

The following four strategic goals were developed by the GeoBoard:

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

Each strategic goal is further supported by actionable objectives based on input from the geospatial community, research into the issue, and other relevant information.

This plan also provides an overview of the current status of the geospatial environment including accomplishments, challenges, and opportunities that can be taken advantage of. Finally, the plan collectively guides the stakeholders and community towards the future state of the Commonwealth’s geospatial environment.

## Introduction

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

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

**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.**

## MISSION

**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.**

The Leadership Team is an unofficial title given to the collective group comprised of the GeoBoard Chair, Vice Chair, and all task force chairs (Appendix D). 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.



As identified in Act 178, under official duties and responsibilities, the GeoBoard may develop task forces as needed to formulate recommendations and perform actions. To date, three task forces have been established by the GeoBoard: Data Program Task Force, Governance Task Force, and Service Delivery Task Force. Members of each task force can be found in Appendix D.

## Data Program Task Force

Per the Data Program Task Force Charter ratified 3/7/2016 by the GeoBoard:

“The mission of the Data Program Task Force is to identify initiatives and approaches that remove barriers to sharing geospatial data across the Commonwealth and promote cost-effective approaches to data sharing, driving operational efficiencies and value-add solutions.”

## Governance Task Force

Per the Governance Task Force Charter ratified 3/7/2016 by the GeoBoard:

“The mission of the Governance Task Force is to document the geospatial governance process in the Commonwealth (to include all governmental entities), 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 coordinate activities across other geospatial governing bodies.”

## Service Delivery Task Force

Per the Service Delivery Task Force Charter ratified 3/7/2016 by the GeoBoard:

“The mission of the Service Delivery Task Force is to evaluate how geospatial services are delivered today in the Commonwealth, evaluate how other states and counties deliver geospatial services and identify recommendations for how geospatial services should be delivered in the Commonwealth to maximize investments.”

# PENNSYLVANIA GEOSPATIAL OVERVIEW

## Accomplishments

- Pennsylvania was one of the first four states in the United States to develop and deploy a free public access geospatial data clearinghouse: Pennsylvania Spatial Data Access (PASDA). PASDA has operated uninterrupted for 23 years.
- Many Pennsylvania state agencies were early adopters of geospatial technology and have highly advanced and innovative architectures and services.
- Many local (county, municipal, and city) governments incorporate innovative and highly developed geospatial data and services into their daily operations.
- Pennsylvania has a vigorous private sector geospatial community consisting of a wide array of businesses and industries.
- Pennsylvania's academic institutions have sophisticated geospatial technology education and research programs that advance science and train the next generation of geospatial professionals.
- Nonprofit organizations, from watershed conservation to human services, are leveraging geospatial technologies in their efforts. For example: Pennsylvania One Call employs GIS collaborative mapping on a daily basis to improve the safety of Pennsylvania's citizens and ensure the integrity of Pennsylvania's underground infrastructure.
- Multiple professional organizations (PA County GIS Pros, PAMAGIC, etc.) within the Commonwealth have active and engaged GIS professionals dedicated to advancing Pennsylvania's geospatial capabilities.
- The PAMAP program (2001-2008) resulted in the creation of invaluable ortho-imagery and topographic data such as LiDAR and associated products.
- In 2014 the Pennsylvania Legislature passed Act 178 establishing the Pennsylvania Geospatial Coordinating Board (GeoBoard).

## Challenges

- Budget and governance issues in 2008 effectively eliminated the State's geospatial leadership and inhibited the sharing and collaboration initiatives of previous years. This elimination led to missed opportunities, redundant and inefficient data development, and disjointed advancement.
- While significant spatial data holdings exist, some core data layers are fragmented and lack defined stewardship and ownership.
- Key governance aspects are missing, including sustainable funding, leadership and accountability, strategic investment and planning, and performance evaluation. These factors must be defined and certain mechanisms put in place to see them come to fruition.
- An organized and consistent outreach and awareness process must be implemented to ensure the value of collaborative and sustainable investment and operations is recognized by decision makers.
- Effective long-term governance must include representation from, and shared decision making by, local, city, county, and state government representatives.
- Lack of a dedicated funding mechanism to appoint an executive director hinders the operation and oversight of the GeoBoard.
- Lack of sustainable funding across the State has historically and currently hinders the geospatial capabilities of the Commonwealth.

## Opportunities

- The GeoBoard is committed to working with other organizations in support of their strategic goals and initiatives, such as the Pennsylvania Emergency Management Agency's (PEMA) strategic plan for Next Generation 911 (NG911), the US Census Bureau, Pennsylvania's local governments, and others as they are developed.
- As noted above, PEMA has completed a strategic plan for NG911. This initiative will provide a new foundation for building data, and collaborating across county, state, and federal governments, educational institutions, non-profits, and private entities. NG911 will require highly accurate, locally generated (county) data to be successful. This endeavor will require increased cooperation and data sharing across entities.
- Increasing amounts and frequency of data, also known as "Big Data," will require developers to have greater access to resources and infrastructure. This could encourage more collaborative approaches and foster innovation.
- Stakeholder needs and expectations are growing, as is the interest in innovative and specific/niche services and applications to solve problems and respond to needs.
- Access to data is becoming increasingly important across broad user communities, from geospatial professionals to citizens. Providing easy access to geospatial data that meets the needs of these diverse communities offers opportunities to enhance and build on our current public data access infrastructure.
- With greater access to data and advanced technology there is a greater opportunity for accountability and transparency.
- Mobile and digital communications are becoming the operational norm. These platforms provide an opportunity to reach new audiences and develop more services that address changing social interaction patterns.
- Long-term budget constraints and fluctuations in funding are both a challenge and an opportunity to work more closely together and identify common needs. This will lead to greater inter-organizational cooperation where we can share responsibilities but also lessen costs and improve results.
- Advances in geospatial science provide tools and information to model and manage critical aspects of the natural environment throughout the Commonwealth, such as floodplain management, invasive species impacts, and conservation of our land, water, and air.
- In addition, these advances also provide tools and information to model and manage critical aspects of the human environment throughout the Commonwealth such as cultural appreciation and preservation, socio-economic research, economic strategizing, and infrastructure asset and facility management.

# STRATEGIC PLAN

## Purpose

By creating this plan, the GeoBoard, and the Commonwealth's geospatial community, intend to develop a collaborative, holistic, and sustainable approach toward geospatial technologies that will benefit stakeholders and citizens of the Commonwealth. The purpose of this plan is to position Pennsylvania to be more effective and efficient in its collective use of geospatial technologies in the future. Targets of this future state are:

- Geographic information is acknowledged as a public asset by a broader constituency.
- The Commonwealth's base layers are seamless, current, accurate, and freely accessible.
- Data is maintained over time and archived consistently for future use.
- Collaboration, cooperation, and coordination among organizations within Pennsylvania are the norm.
- Duplication of effort is effectively eliminated; data should be created once, maintained as necessary, and used many times.
- Resources are allocated to support geospatial operations and projects across the Commonwealth in a sustainable and long lasting manner.
- Pennsylvania's geospatial industry attracts and retains talent by fostering personal and professional growth through employment, academic research, education, and participation opportunities.
- All levels of government (federal, state, county, and local) as well as educational stakeholders, utilities, nonprofit organizations, and the private sector can be involved in planning, creating, distributing, funding, and enhancing the collective geospatial capabilities of the Commonwealth.

## Strategic Goals

The strategic goals described in this plan are the result of input acquired by the GeoBoard during an intense planning process (Appendix A). This input has been developed into four overarching strategic goals, goals which are designed to achieve the future vision of geospatial technologies in the Commonwealth. The GeoBoard task forces will be responsible for taking this plan forward, continuing discussion, and collaboratively developing implementation plans for each goal.

The four key strategic goals for the GeoBoard are:

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

Each strategic goal is further supported by actionable objectives based on input from the geospatial community, research into the issue, and other relevant information.

## Strategic Goal 1: Create a Sustainable Business Model

To foster an engaging and beneficial environment for stakeholders, the GeoBoard should create a sustainable business model that encourages growth, cooperation, and collaboration. This model must include opportunities for input from all stakeholder groups and allow the GeoBoard to conduct long term planning and strategizing.

### Implementation Objectives

#### *Sustainable Funding*

- Purpose: Sustainable funding for geospatial operations in the Commonwealth allows for long term planning, cooperative initiatives, and the sharing of resources across organizations.
- Approach: Work cooperatively with GeoBoard members and with external organizations to identify potential funding opportunities and communicate this information to the broader community.
- Status: Not yet commenced
- Entity: Governance Task Force

#### *Address Geospatial Leadership*

- Purpose: This plan recognizes the need for committed geospatial technologies leadership. Many other states have addressed leadership by creating the position of GIS Coordinator or Geographic Information Officer (GIO). This individual facilitates collaboration and cooperation across entities and serves to develop awareness and enhance communication in the state.
- Approach: The GeoBoard will explore options and offer a leadership recommendation. Initial duties this leadership role would carry out include:
  - » Interface with the GeoBoard and support the implementation of the GeoBoard Strategic Plan goals and initiatives.
  - » Identify opportunities and present solutions that enhance coordination, collaboration, and cooperation.
  - » Facilitate communication across (and within) the Commonwealth's organizations.
  - » Coordinate with federal agencies, interstate entities, neighboring states, and private industry to strengthen Pennsylvania's geospatial community.
  - » Promote awareness/education of geospatial technologies throughout Commonwealth.
  - » Identify and communicate potential funding sources such as grants, private funding, pooled funding opportunities, etc., where applicable and permissible.
- Status: Not yet commenced
- Entity: GeoBoard Leadership Team

# STRATEGIC PLAN

## *Sustainable Personnel*

- Purpose: Sustainability of personnel throughout the state is pivotal to the success of Pennsylvania's geospatial future.
- Approach: Develop best practice recommendations to create a highly skilled and sustainable geospatial workforce across the Commonwealth.
- Status: Not yet commenced
- Entity: Unidentified

## *Develop and Implement a GeoBoard Interaction Workflow*

- Purpose: The process of identifying and prioritizing the Pennsylvania geospatial community's needs, challenges, opportunities, and risks is undefined. The GeoBoard requires mechanisms to improve its interaction capabilities.
- Approach: Develop a process facilitating communication from the geospatial community to the GeoBoard.
- Status: Not yet commenced
- Entity: Unidentified

## *Sustainability of the GeoBoard*

- Purpose: It is important to periodically review the GeoBoard to ensure that current functions are necessary, that it is fulfilling its mission, and that its operations are optimized.
- Approach: A temporary subcommittee will be created to conduct an evaluation of the GeoBoard. The subcommittee will follow review guidelines to ensure all aspects of the GeoBoard are evaluated and optimized to be the most effective and efficient they can be.
- Status: Not yet commenced
- Entity: GeoBoard Review Subcommittee (temporary subcommittee to be dissolved after completion)

## Strategic Goal 2: Facilitate the Development of Statewide Authoritative Datasets

The GeoBoard will support the development, promotion, and adoption of statewide authoritative datasets to create a seamless statewide base map.

### **Implementation Objectives**

#### *Establish and Develop Statewide Basemap Data Layers*

- Purpose: Basemap data layers are the key building blocks that support the Commonwealth's geospatial data infrastructure. Identifying authoritative data and/or facilitating its development and encouraging its use will simplify collaboration, reduce costs, and improve decision making across Pennsylvania.
- Approach: Identify and define the key basemap layers for Pennsylvania. To date, twelve basemap layers have been defined for the Commonwealth.
- Status: In progress
- Entity: Data Program Task Force

## *Define Data Authors and Promote Effective Data Stewardship*

- Purpose: Sound, defensible decisions depend on accurate information and data. Proper data stewardship ensures that data integrity is maintained as it is created, updated, and enhanced.
- Approach: Establish responsibility for production and ongoing maintenance of geospatial data. For each basemap theme, define standards and guidelines for accuracy, precision, security, update frequency, and archiving.
- Status: Not yet commenced
- Entity: Data Program Task Force, Governance Task Force, Service Delivery Task Force

## *Establish and Implement a Strategy for Ongoing Development of Statewide Remotely Sensed Data*

- Purpose: Remotely sensed data (which includes a vast array of products) is vital to geospatial data development. Additionally, this data is used for a wide variety of purposes including emergency management, public safety, economic development, and more. A recent survey of geospatial technology practitioners identified a lack of current ortho-photography as the largest data gap.
- Approach: With the impending implementation of NG911, PEMA has developed a NG911 Strategic Plan. Within this plan, PEMA has identified a pressing need to acquire remotely sensed data, specifically ortho-photography, in 2018 and beyond. The GeoBoard will collaborate with PEMA and its stakeholders to support the Plan and ensure it is meeting the needs of the Commonwealth. Status: In progress
- Entity: Data Program Task Force, PEMA, PA GIS Pros, Geospatial Community



# STRATEGIC PLAN

## Strategic Goal 3: Ensure and Promote Public Access to Geospatial Data and Services

Data is an asset, a driver of economic development, a vital decision-making tool, and a historical record. Access to geospatial data is, therefore, of great value to Pennsylvania's citizens. The GeoBoard should develop and advocate for policies to ensure access. To achieve this goal, an evaluation of Pennsylvania's current service delivery environment, a review of external approaches, and identification of service delivery best practices must occur.

### Implementation Objectives

#### *Ensure Effective Deployment of Geospatial Data and Services*

- Purpose: Accessible geospatial data and services are critical to developing an innovative geospatial community. Providing easy and effective access will support many important functions in the Commonwealth.
- Approach: Explore, facilitate, and promote awareness of the applications and services available to the Commonwealth's citizens, businesses, and governments.
- Status: In progress
- Entity: Service Delivery Task Force

#### *Enhance the Existing Pennsylvania Spatial Data Access (PASDA) Infrastructure*

- Purpose: A robust data sharing and access infrastructure enables data discovery and retrieval, maintains source data quality and authenticity, and adds value to the geospatial community. PASDA has served as Pennsylvania's free public access geospatial data portal for over 23 years and is well positioned to expand its services.
- Approach: Form a subcommittee to solicit ideas from the geospatial community to identify additional opportunities for PASDA.
- Status: In progress
- Entity: Service Delivery Task Force, PASDA

#### *Explore Strategic, Business-Driven Applications (Specialized and Complex)*

- Purpose: Support the development of applications and services to create an environment for collaborative development, analysis, and data enhancement, thus providing a significant opportunity for collaboration and cooperation among stakeholder groups.
- Approach: Engage service providers to find common goals and identify areas of collaboration in service development to drive efficiencies.
- Status: Not yet commenced
- Entity: Service Delivery Task Force

#### *Expand Geospatial Data Archiving*

- Purpose: Data is an asset that belongs to both current and future generations of Pennsylvania's citizens. Managing and curating data is a long term and important goal that saves money, time, and effort and preserves our economic investment. Many data creators currently do not archive their data which results in the loss, over time, of data assets.
- Approach: Adopt a data archiving process based on best practices and available technology. This process is currently utilized by PASDA to ensure the long term preservation of geospatial data in the Commonwealth. To expand this service, PASDA will engage additional data providers in this process including state, regional, and local government agencies as well as other geospatial data stakeholders to safeguard robust historic datasets for the Commonwealth's future generations.
- Status: In progress
- Entity: PASDA, Service Delivery Task Force



# STRATEGIC PLAN

## Strategic Goal 4: Enhance Collaboration, Cooperation, and Coordination

Collaboration, cooperation, and coordination are the keys to an effective and robust geospatial technology infrastructure and community. Effective regional and statewide communication will act as the vehicle for which these three activities are accomplished, resulting in reduced redundant efforts within the Commonwealth, and thereby saving time and money.

### Implementation Objectives

#### *Promote Data Sharing Across Entities*

- Purpose: Data sharing across entities is paramount to successfully reducing or eliminating redundant efforts.
- Approach: Develop a model geospatial data sharing agreement that can be used across stakeholders.
- Status: In progress
- Entity: Data Program Task Force, PA Office of Administration

#### *Enhance GeoBoard Communications*

- Purpose: Communicate the GeoBoard's activities in an efficient, consistent, and understandable manner. A standardized communications process will guarantee reliable and accurate information is being conveyed, thus ensuring that credibility is maintained.
- Approach: Develop a formal communication plan and standardize consistent communication models for the varied geospatial stakeholder audience.
- Status: In progress
- Entity: GeoBoard Leadership Team, GeoBoard General Membership



#### *Increase Direct Outreach and Engagement*

- Purpose: Direct outreach and engagement with stakeholders is vital to the success of the GeoBoard and fosters a collaborative environment and open communication.
- Approach: Members of the GeoBoard are encouraged to be active participants in the geospatial community through activities such as attending and presenting at conferences and meetings across the Commonwealth. It is recommended that the GeoBoard create a group that will focus on enhancing outreach and engagement with stakeholders.
- Status: In progress
- Entity: GeoBoard Leadership Team, GeoBoard General Membership, Task Force Members

#### *Enhance Involvement of the Geospatial Community in GeoBoard Initiatives*

- Purpose: The GeoBoard and associated Task Forces and subcommittees all operate on a strictly volunteer basis. Recognizing individual time is limited and turnover is inevitable, the GeoBoard can mitigate continuity disruptions by actively and continuously recruiting new participants.
- Approach: Develop measures to encourage the geospatial community to become more involved in GeoBoard activities. Offer a variety of participatory activities and provide estimates of time commitments to the broader community. These activities will reside primarily in the Task Forces.
- Status: In progress
- Entity: GeoBoard Leadership Team, Governance Task Force

# ENSURING SUCCESS and PROGRESS

## Implementation Plan

Details related to the implementation of the strategic goals and objectives included in this plan will be developed via complementing documents called Implementation Plans. These Implementations Plans will be developed to detail individual tasks necessary to successfully achieve a particular objective (as outlined above). Implementation Plan items, contributing parties, and completion timeframes will be developed jointly by all task forces and input into a standardized template.

## Measuring Success

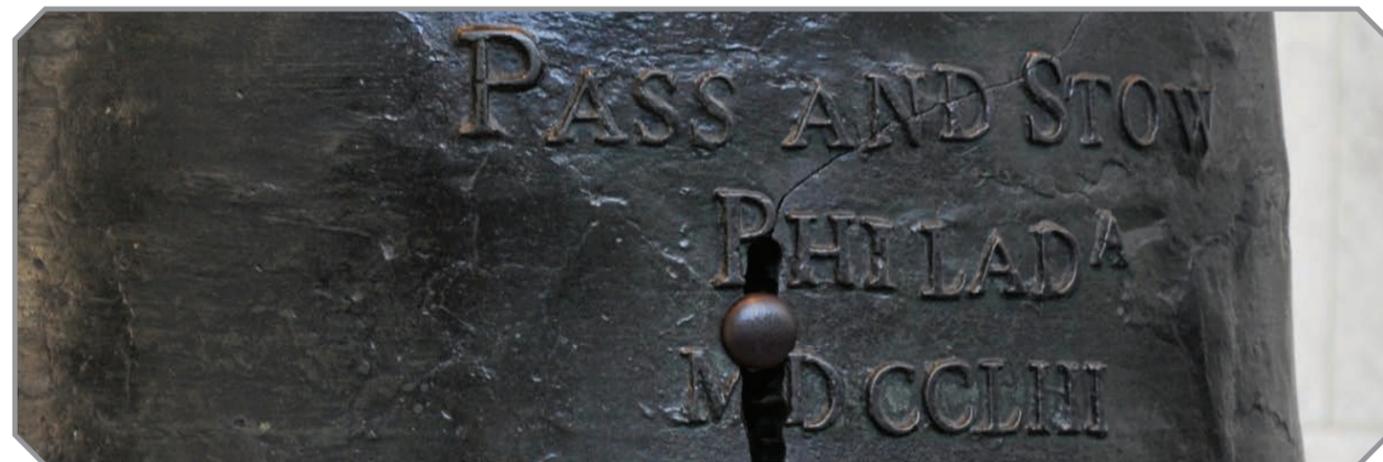
Every strategic plan requires careful monitoring and updating to determine if the objectives set forth are being advanced successfully. This monitoring is often done through a set of metrics applied to determine the progress of each goal.

## Ensuring Continued Progress

To achieve the future state envisioned by the GeoBoard, continued progress must occur. Neither regression nor stagnation is an option in Pennsylvania’s geospatial community.

### PA State Geospatial Strategic Plan Continued Progress

Sustained success of the Strategic Plan requires that it be flexible and accommodating to future geospatial developments within the Commonwealth. To ensure this flexibility occurs, the plan shall be reviewed and updated on a consistent and continuing basis in an organized and systematic manner. Such systematic review will guarantee that a consistent product is generated and progresses alongside Pennsylvania’s advancing geospatial technologies.



## Strategic Plan Review and Update

### Purpose

The Strategic Plan is written as a living document, created to adapt to changing situations and ensure that progress is maintained throughout the entirety of its life. In order to ensure that these changing situations are reflected in the Strategic Plan, a periodic review must be conducted.

### Approach

Systematic review of this Strategic Plan shall be undertaken to ensure that goals and objectives are progressing and/or being met as designed; create future goals and objectives; account for unforeseen circumstances and developments; capture changes in geospatial opportunities and challenges; and evaluate whether the plan is meeting the needs of the collective geospatial community in Pennsylvania.

### Timeline

The review and update period shall occur biennially, commencing immediately following the 4th quarter GeoBoard meeting on even number years and continue until the 1st quarter GeoBoard meeting where the updated plan shall be voted for acceptance (Figure 1).

### Entity

The Strategic Plan Subcommittee shall be formed by and fall under the guidance of the Governance Task Force but be comprised of members representing all GeoBoard Task Forces active at the time of review, as well as the GeoBoard Leadership Team.

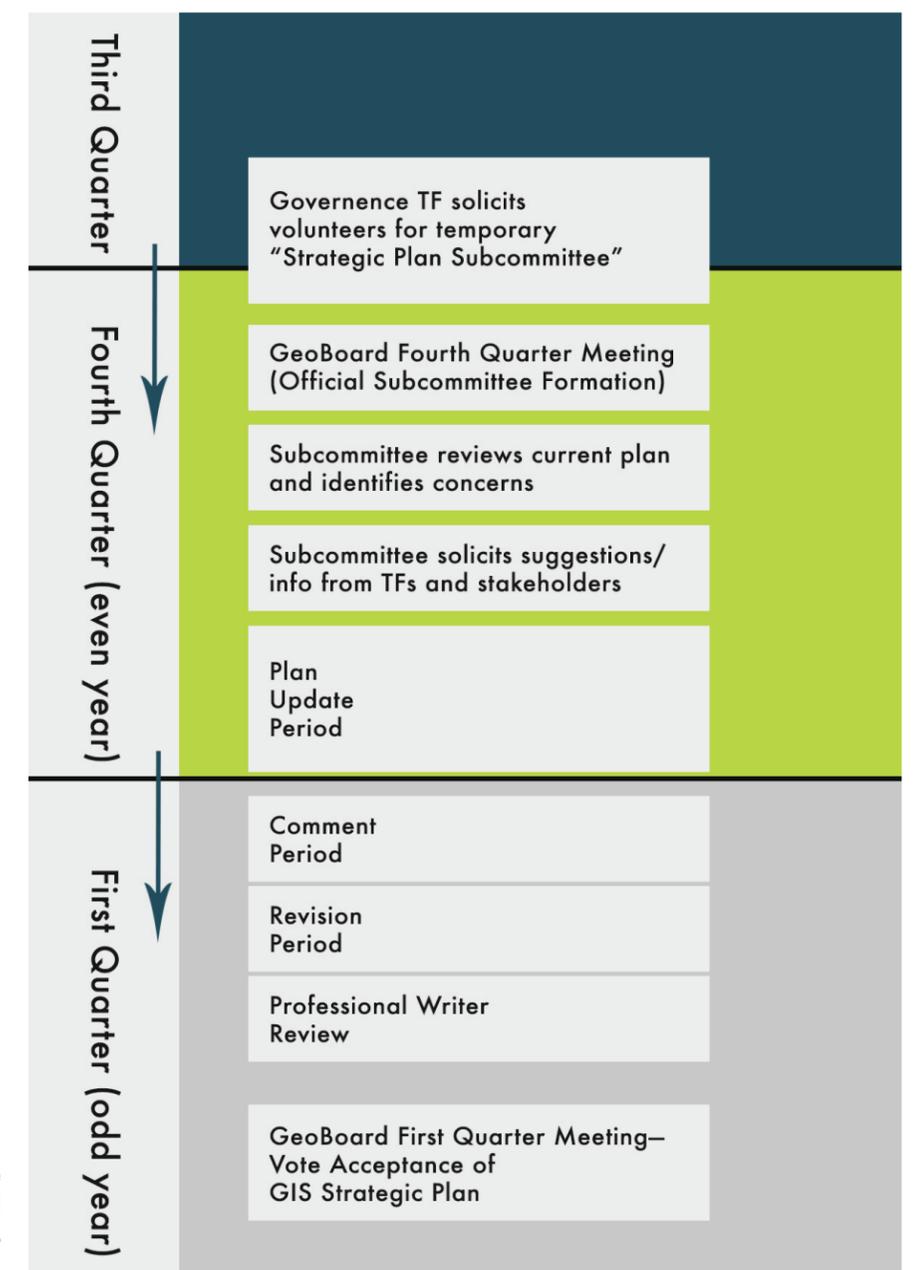
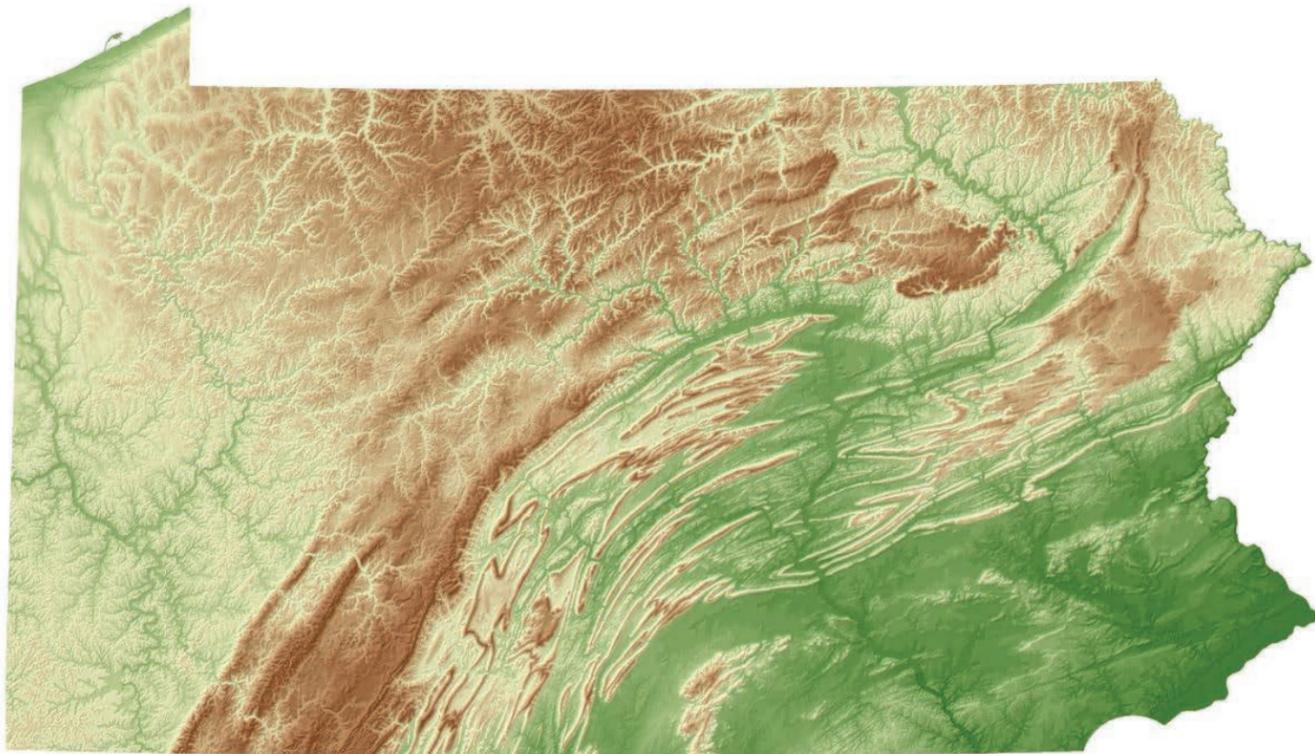


Figure 1: Timeline of the Strategic Plan Review and Update Process

This plan lays out a conceptual map to Pennsylvania's geospatial future. Successful implementation of this plan will require hard work and dedicated resources. New levels of cooperation, collaboration, and coordination amongst entities must be attained. Once implemented, the presented strategies should yield a long-term sustainable geospatial environment for the Commonwealth, and propel Pennsylvania to the forefront of the national geospatial community.



## Appendix A

### The Planning Process

The strategic planning process, which culminated in this plan, was initiated in the summer of 2016. The planning process activities spanned numerous meetings, visioning sessions, surveys, and assessments. Each of these activities is described in more detail below:

#### Planning Process Activities

##### *Community Input Sessions at the 2016 PA GIS Conference*

- Purpose: The GeoBoard wanted to provide an opportunity for attendees to interact with the (recently formed) board members in person to ask questions, voice concerns, and provide input.
- Approach: The Leadership Team of the GeoBoard presented the opening keynote speech for the conference. Interactions occurred during this session (Q&A), as well as immediately after the session in a more informal setting. Additionally, a separate session with all present members of the GeoBoard was held, which was open to the public.
- Timeline: 2016 PA GIS Conference—held May 2016
- Entity: GeoBoard Leadership Team, GeoBoard General Membership

##### *Online Stakeholder Survey*

- Purpose: The GeoBoard required input from organizations in the state in order to identify key objectives that the GeoBoard should include in its strategic plan.
- Approach: An assessment of current services across Pennsylvania was completed as part of the stakeholder survey in August of 2016. This survey addressed issues such as service providers, data consumers, and more. The more than 200 respondents included individuals from state, local, and federal agencies, higher education, NGOs, and the private sector.
- Timeline: August 2016
- Entity: GeoBoard General Membership, Commonwealth's Geospatial Community

##### *Individual and Joint Task Force Planning Sessions*

- Purpose: The GeoBoard wanted to identify critical geospatial community needs and undertook research into how other government organizations are addressing similar needs. Issues researched included state-wide data management and sharing, enterprise service delivery models, and comprehensive governance models.
- Approach: The GeoBoard Task Forces met numerous times individually to gather the specific needs for their Task Force. After needs were hashed out individually, Joint Task Force meetings were held to conflate and consolidate similar individual Task Force session results.
- Timeline: June 2016—May 2017
- Entity: GeoBoard General Membership, GeoBoard Task Forces

## Assessment of the State of Geospatial Technologies in Pennsylvania

- Purpose: The planning process showed that the GeoBoard needed an evaluation of the state of geospatial technologies in Pennsylvania. This evaluation sought information on the following: precedent collaboration efforts, spatial data availability and management, existing service delivery models, precedent governance models, and conclusions noting gaps and pertinent needs to attain a better future state of GIS.
- Approach: The GeoBoard leveraged pre-existing information and distributed survey notices to all stakeholders identified. Respondents included individuals from state, local, and federal agencies, higher education, NGOs, and the private sector.
- Timeline: November 2016–January 2017
- Entity: GeoBoard General Membership, Commonwealth’s Geospatial Stakeholders

## Best Management Assessment

- Purpose: To ensure Pennsylvania was proceeding in the best direction possible, a review of other state approaches was undertaken to obtain information on best practices for implementation of a GeoBoard and its activities.
- Approach: A team of researchers was identified and reviewed other geospatial technology operations, services, and production. Subsequently, meetings and discussions were held with other state GIOs and coordinators. In addition, local government services were examined. Best practices were identified and included approaches from Indiana, New York, Ohio, Virginia, and Massachusetts. These included services such as the development of a statewide municipal boundary data set and map service, a statewide building data set and map services, remotely sensed imagery data development and map services.
- Timeline: June 2016–May 2017
- Entity: GeoBoard Task Forces

## Visioning Sessions

- Purpose: To assess current state of geospatial technology in Pennsylvania and discuss vision and common goals for the GeoBoard as well as consolidate future state goals to create the basis for the strategic plan.
- Approach: The GeoBoard Task Forces and GeoDecisions met twice – once in December 2016 and again in January 2017. These meetings included opportunities for feedback from the Task Force members as well as visioning exercises that helped to identify goals related to basemap development, delivery of services, and long term strategic direction.
- Timeline: December 2016–January 2017
- Entity: GeoBoard Task Forces, GeoDecisions

## Appendix B

ADMINISTRATIVE CODE OF 1929 – STATE GEOSPATIAL COORDINATING BOARD

Act of Oct. 22, 2014, P.L. 2881, No. 178

Cl. 71

Session of 2014

No. 2014-178

SB 771

AN ACT

Amending the act of April 9, 1929 (P.L.177, No.175), entitled “An act providing for and reorganizing the conduct of the executive and administrative work of the Commonwealth by the Executive Department thereof and the administrative departments, boards, commissions, and officers thereof, including the boards of trustees of State Normal Schools, or Teachers Colleges; abolishing, creating, reorganizing or authorizing the reorganization of certain administrative departments, boards, and commissions; defining the powers and duties of the Governor and other executive and administrative officers, and of the several administrative departments, boards, commissions, and officers; fixing the salaries of the Governor, Lieutenant Governor, and certain other executive and administrative officers; providing for the appointment of certain administrative officers, and of all deputies and other assistants and employes in certain departments, boards, and commissions; and prescribing the manner in which the number and compensation of the deputies and all other assistants and employes of certain departments, boards and commissions shall be determined,” providing for the State Geospatial Coordinating Board.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. The act of April 9, 1929 (P.L.177, No.175), known as The Administrative Code of 1929, is amended by adding a section to read:

Section 432.1. State Geospatial Coordinating Board.--(a) There is established a State Geospatial Coordinating Board within the Governor’s Office of Administration. The board is established 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.

(b) (1) The State Geospatial Coordinating Board shall consist of the following members:

(i) The Secretary of Administration or a designee.

(ii) The Secretary of Environmental Protection or a designee.

(iii) The Secretary of Conservation and Natural Resources or a designee.

(iv) The Director of the Pennsylvania Emergency Management Agency, or its successor agency, or a designee.

(v) The Secretary of Transportation or a designee.

(vi) The Secretary of General Services or a designee.

(vii) Three members appointed by the President pro tempore of the Senate in consultation with the Majority Leader and Minority Leader of the Senate. One member shall be a representative of a municipal authority. One member shall be an elected local government official representing

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a rural community. One member shall be an elected local government official representing a suburban community.

(viii) Three members appointed by the Speaker of the House of Representatives in consultation with the Majority Leader and Minority Leader of the House of Representatives. One member shall be a local elected official representing an urban community. One member shall be an employe of a county emergency management agency. One member shall be an individual with expertise in geospatial technology.

(ix) Three members appointed by the Governor. One member shall be a county commissioner. One member shall be a member of the Pennsylvania Society of Land Surveyors. One member shall be an individual with expertise in data development and sharing.

(x) One member designated by the County Geographic Information Systems Professionals Association of Pennsylvania.

(xi) One member designated by the Pennsylvania Mapping and Geographic Information Consortium.

(xii) One member designated by the County Commissioners Association of Pennsylvania.

(xiii) One member designated by the Pennsylvania Chapter of the Management Association for Private Photogrammetric Surveyors.

(2) The members of the board shall include persons knowledgeable in the fields related to geographic information systems, including geospatial technology, data development, architecture standards, data sharing, county government, local government, municipal planning or municipal authorities. The appointees shall serve at the pleasure of the appointing authority.

(c) The board shall also include the following nonvoting ex officio members or their designees, who shall have all the rights of other members, except for voting:

(1) The Commonwealth's mapping liaison from the United States Geological Survey.

(2) One member designated by the Pennsylvania One Call System.

(3) The chairman of the Pennsylvania Public Utility Commission or a designee.

(4) One member designated by The Geographic Information System Consortium of the Pennsylvania State System of Higher Education.

(5) One member designated by the Pennsylvania Municipal Authorities Association.

(6) One member designated by the American Planning Association, Pennsylvania Chapter.

(7) The director of Pennsylvania Spatial Data Access.

(8) The Commissioner of Pennsylvania State Police or a designee.

(d) The terms of office of members representing State agencies shall coincide with the term of the Governor. In case of a vacancy, the Governor shall make an appointment for the unexpired portion of the term. An organizational designee shall serve a term of three years. In the case of a vacancy, the appropriate organization shall provide a designee for the unexpired portion of the term. The replacement council member shall serve until an alternate designee is duly appointed by the appropriate organization for the following term.

(e) The Governor shall designate the chairperson and vice-chairperson of the board from among the members of the board, other than the ex officio members. The board shall meet not less than four times yearly. Additional meetings shall be at the discretion of the chairperson. Ten members of the board shall constitute a quorum.

(f) The members of the board shall serve without compensation. The board may, with the approval of the Governor, appoint and fix the compensation of an executive director who shall be technically qualified for the duties of the office and who shall act as secretary of the board and conduct the work of the board under its supervision.

(g) From funds appropriated for the purposes of this subsection or to the Office of Administration, the board may employ and fix the compensation of such experts, stenographers and assistants as necessary to carry out the work on the board. The board shall make a diligent effort to enlist voluntary assistance as may be available from citizens, research organizations and other agencies in this Commonwealth or elsewhere, generally recognized as qualified to aid the board.

(h) The board shall have 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 paragraph may include recommendations of specific geospatial technology investments in this 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.

(i) The Office of Administration shall provide administrative assistance to the board and may provide other assistance to the board upon recommendation of the chairperson, if sufficient Commonwealth resources exist.

(j) This section shall expire June 30, 2020.

Section 2. This act shall take effect in 60 days.

APPROVED--The 22nd day of October, A.D. 2014.

TOM CORBETT

# APPENDIX

## Appendix C

### Pennsylvania Geospatial Coordinating Board Members

#### Voting Members

ORGANIZATIONAL MEMBER	NAMED REPRESENTATIVE	FORMAL REPRESENTATIVE DESIGNEE(S)
Secretary of Administration	Sharon Minnich	John MacMillan
Secretary of Environmental Protection	Patrick McDonnell	Sean Crager
Secretary Conservation and Natural Resources	Cindy Adams Dunn	Gail Blackmer
Director of Pennsylvania Emergency Management Agency	Richard Flinn, Jr.	Jeffrey Thomas
Secretary of Transportation	Leslie Richards	Frank DeSendi Laine Heltebride
Secretary of General Services	Curtis Topper	Matthew Bembenick
Senate Appointee: Municipal Authority	Dan Ramer	
Senate Appointee: Elected Local Government Official - Rural Community	William Hunt II	
Senate Appointee: Elected Local Government Official - Suburban Community		
House Appointee: Elected Local Government Official - Urban Community		
House Appointee: Employee of County Emergency Management Agency	Phil Colvin (County of Lancaster)	Glenn Mohler (County of Lancaster)
House Appointee: Individual with Expertise in Geospatial Technology	Justin Klos	
Governor Appointee: County Commissioner	Kathi Cozzone (County of Chester)	Rita Reynolds (County Commissioners Association)
Governor Appointee: Pennsylvania Society of Land Surveyors (PSLS)	Michael D. Kreiger	Matthew Warner (Herbert, Rowland, and Grubic Inc.)
Governor Appointee: Individual with Expertise in Data Development and Sharing	Kenneth Juengling (PA Turnpike Commission)	
County GIS Professionals Association of Pennsylvania	Barry Hutchins, Sr. (County of Lycoming)	Laura Simonetti (County of Mifflin)
Pennsylvania Mapping and Geographic Information Consortium	Dave Gilbert	

ORGANIZATIONAL MEMBER	NAMED REPRESENTATIVE	FORMAL REPRESENTATIVE DESIGNEE(S)
County Commissioners Association of Pennsylvania	Erick Coolidge (County of Tioga)	Scott Zubek (County of Tioga)
Pennsylvania Chapter of the Management Association for Private Photogrammetric Surveyors (PA MAPPS)	Howard Hodder	

#### Non-Voting Members

ORGANIZATIONAL MEMBER	NAMED REPRESENTATIVE	FORMAL REPRESENTATIVE DESIGNEE(S)
United States Geologic Survey Mapping Liaison	Scott Hoffman	
Pennsylvania One-Call System	Bill Kiger	
Public Utility Commission	Gladys Brown	Paul Metro
Pennsylvania State System of Higher Education - GIS Consortium		
Pennsylvania Municipal Authorities Association	Craig Thomas	
American Planning Association, Pennsylvania Chapter	Brian Traylor	
Pennsylvania Spatial Data Access	Maurie Kelly	
Pennsylvania State Police	Tyree Blocker	Adam Repsher
State System of Higher Education	Scott Drzyzga	

## Appendix D

### Leadership Team and GeoBoard Task Force Members

#### Leadership Team

NAME	ORGANIZATION	POSITION
John MacMillan	PA Office of Administration	Geoboard Chair
Sean Crager	PA Office of Administration	Geoboard Vice Chair Data Program TF Chair
Kevin M Eaton	City of Philadelphia	Governance TF Chair
Laura Simonetti	County of Mifflin	Service Delivery TF Chair

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## Data Program Task Force

NAME	ORGANIZATION	POSITION
Sean Crager	PA Office of Administration	Chair
		Vice Chair
Andrew Shears	Mansfield University	Contributing Member
Barry Hutchins	County of Lycoming	Contributing Member
Clyde Troutman		Contributing Member
Craig Neidig	USGS	Contributing Member
Dan Ramer		Contributing Member
David Gilbert	PA MAGIC	Contributing Member
Eric Jespersen	PA MAGIC	Contributing Member
Howard Hodder	PA MAPPS	Contributing Member
Justin Klos		Contributing Member
Justin Smith	County of Cumberland	Contributing Member
Ken Juengling	PA Turnpike Commission	Contributing Member
Matthew Warner	PSLS	Contributing Member
Maurie Kelly	PASDA	Contributing Member
Michael Shillenn		Contributing Member
Patrick McKinney	County of Cumberland	Contributing Member
Paul DeBarry		Contributing Member
Brett B Schmid		Contributing Member
Scott Hoffman	USGS	Contributing Member
Stephen Kocsis	County of Cambria	Contributing Member
Carrie Tropasso	PA DEP	Contributing Member
Ty Richins	PA Turnpike Commission	Contributing Member
William Hunt III	County of Potter	Contributing Member

## Governance Task Force

NAME	ORGANIZATION	POSITION
Kevin M Eaton	City of Philadelphia	Chair
		Vice Chair
Bradley Austin	PA Dept. of Agriculture	Contributing Member
Damon Anderson	Public Utilities Commission	Contributing Member
Eric Jespersen	PA MAGIC	Contributing Member
Frank M Desendi	PennDOT	Contributing Member
James D Ritzman	PennDOT	Contributing Member
Jeff Boyle	PEMA	Contributing Member
Jesse Suders	McCormick Taylor, Inc.	Contributing Member
Kathi Cozzone	County of Chester	Contributing Member
Matthew Bembenick	PA Dept. of General Services	Contributing Member
Maurie Kelly	PASDA	Contributing Member
Mike Bialousz	ESRI	Contributing Member
Paul Metro	Public Utilities Commission	Contributing Member
Rita Reynolds	CCAP	Contributing Member
Tim Schock	PA State Data Center	Contributing Member

## Service Delivery Task Force

NAME	ORGANIZATION	POSITION
Laura Simonetti	County of Mifflin	Chair
		Vice Chair
Adam Repsher	PA State Police	Contributing Member
Barry Hutchins	County of Lycoming	Contributing Member
Craig Thomas	Chester County Water Resources Authority	Contributing Member
Erick Coolidge	County of Tioga	Contributing Member
Jeffrey Thomas	PEMA	Contributing Member
Ken Juengling	PA Turnpike Commission	Contributing Member
Mary Fulton	PA Office of Administration	Contributing Member
Maurie Kelly	PASDA	Contributing Member
Steve Kocsis	County of Cambria	Contributing Member

# APPENDIX

## Appendix E Definitions and Terms

### **Act 178**

Legislation which enables the GeoBoard creation as enacted in 2014 via amendment to the Administrative Code of 1929 (Appendix B)

### **Agency**

A division within the organizational structure of Pennsylvania's state government.

### **Authoritative data / datasets**

Data recognized to be the most accurate and precise data representing true conditions in the real world; supplants all other similar datasets.

### **Base layer(s)**

A consistent set of ubiquitous geospatial data that can be used collectively and is too costly to duplicate among various levels of government and the private sector.

### **Basemap**

The combination of base layers in a map format to create a consistent foundation of data and symbolic representation.

### **Business Model**

A design for the successful operation of geospatial technologies in the state which identifies funding sources, stakeholders, customer base, products, and details of service.

### **Commonwealth**

The geographic expanse of Pennsylvania.

### **Data author**

Organization/entity/individual who is responsible for creating and maintaining the data in its original form; where the data originates.

### **Data Stewardship**

Organization / entity / individual who is responsible for managing, combining, and leveraging geospatial data for a particular purpose.

### **GIS**

Abbreviation for Geographic Information Systems; a term that refers to the collective geographic data, services, architecture, and software as a holistic system.

### **Geospatial Community**

The stakeholders (both organizations and people) interested in, and leveraging, geospatial technologies within the Commonwealth.

### **Geospatial Professionals**

Specifically refers to the persons employed in a geospatial field.

### **GeoBoard**

Abbreviation for the Pennsylvania State Geospatial Coordinating Board.

### **Next Generation 911 (NG911)**

Nationwide initiative which will change how 911 information is obtained and located from current methodology (telephone companies) to GIS based location identification.

### **Ortho-imagery**

Remotely sensed data specifically imagery from the orthogonal (top down) view; typically refers to 3 band products.

### **PA County GIS Pros**

A GIS centric organization for Pennsylvania counties which provides opportunities for professional development, facilitates the sharing and coordinating of geospatial resources, and assists and supports counties' geospatial initiatives.

### **PAMAGIC**

Pennsylvania Mapping and Geographic Information Consortium (PAMAGIC) is a not-for-profit organization that provides leadership and guidance in the establishment of (GIS) throughout the Commonwealth of Pennsylvania.

### **PASDA**

Pennsylvania Spatial Data Access serves as Pennsylvania's free public access geospatial open data portal/ GIS data clearinghouse.

### **Remotely sensed data**

The term used to refer to collection of data obtained via remote sensing technology to include products such as: ortho-imagery, LiDAR, oblique imagery, infrared imagery, etc.

### **Seamless**

In terms of GIS this refers to data that has no interruptions at administrative boundaries (where data authors differ) and all edges are matched.

### **Services**

A geospatial resource (data, map, etc.) that is typically contained within a developed application making it easily accessible; services vary to fit specific needs from complex integrated applications to individual resources.

### **Stakeholder(s)**

Organizations and people with a vested interest in geospatial technologies within the Commonwealth.

### **State Agencies**

The collective agencies of the Pennsylvania State Government.

**PA State Geospatial Coordinating Board**  
**Geospatial Strategic Plan 2018**