GIS STRATEGIC PLAN
2010-2015

"Using geographic knowledge to create a better Virginia"

VGIN
Virginia Geographic Information Network

VITA

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EXECUTIVE SUMMARY

Everyday, geospatial information provides state and local decision makers with the ability to display, manipulate and analyze critical information. In the Commonwealth of Virginia, geospatial technology has provided solutions in areas such as natural and historic resources, environmental protection, health care, land use, economic development, transportation, public safety and emergency management.

While the general population's understanding of geospatial technology is relatively new and primarily limited to the use of global positioning system (GPS) devices and applications like Google Earth, almost all of Virginia's 134 localities, and many of its state agencies, have used more complex geographic information for years. The increased demand for Geographic Information Systems (GIS) has generated great improvements in technology leading to improved data quality and increased accessibility. However, the future will demand more from GIS data and technology. An increased level of knowledge, skills, and abilities in the workforce, along with improved data accuracy and technology, will be required for Virginia to meet this growing need. Is Virginia ready?

Despite the rising importance of geospatial information and technology, many organizations within the Commonwealth still struggle with the technology and access to necessary data.   To better coordinate the sharing of geospatial information for state and local agencies across the Commonwealth, legislation codified in 1997 the Virginia Geographic Information Network (VGIN). VGIN was established to "foster the creative utilization of geographic information and oversee the development of a catalog of GIS data available in the Commonwealth".[1]   As technology demands increase and data requirements grow, VGIN must adapt to best meet the needs of the Commonwealth.

In order to best determine VGIN's future direction, VGIN must first understand its current state, be clear on its organizational vision, and develop a roadmap for how it can best achieve that vision. This document serves as the VGIN 2010-2015 GIS Strategic Plan. The Strategic Plan is designed to identify the key geospatial needs of the Commonwealth and includes a roadmap to assist VGIN in meeting those needs.

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1 Virginia Code § 2.2-2026 and § 2.2-2027

The Strategic Plan includes:

- The strategic planning approach and methodology
- A current snapshot of GIS in the Commonwealth
- A shared vision of GIS
- A strategy for improving VGIN's alignment with its stakeholders
- Strategic initiatives and recommendations moving forward.

Six strategic initiatives were identified and connected to three organizational goals which serve as the foundation of VGIN's Strategic Plan. The three overarching goals will guide VGIN toward its vision of "Using geographic knowledge to create a better Virginia." The goals and initiatives are as follows:

GOAL 1: Coordination and Collaboration - Provide greater coordination and facilitate collaboration within the geospatial community

- Initiative 1: Develop and maintain geospatial standards
- Initiative 2: Oversee the development of a Commonwealth-wide geospatial clearinghouse that connects all levels of government and other VGIN stakeholders

GOAL 2: Communication - Increase communication and outreach to the general public, decision makers, and the geospatial community

- Initiative 3: Facilitate geospatial educational opportunities
- Initiative 4: Provide marketing advocacy and outreach by acting as the primary champion of GIS in Virginia

GOAL 3: Creative Services - Continue to create a platform for spatial solutions in the Commonwealth

- Initiative 5: Provide framework basemap data layers to augment the current orthophotography and road centerline data layers
- Initiative 6: Identify and develop innovative technical solutions

In addition, key activities were recommended for VGIN to address as it moves forward with its strategic plan. These recommendations focus on funding and sustainability, coordination and collaboration, communications, creative services, and an implementation plan.

STATEMENT OF PURPOSE AND KEY TERMS

PURPOSE OF THE STRATEGIC PLAN

The Strategic Plan for VGIN defines strategic goals and initiatives to enhance geospatial functionality, services, and strategy in the Commonwealth. The Strategic Plan will chart a path toward an interoperable geospatial environment for the Commonwealth, using effective coordination, collaboration, communication, and creative services.

The Strategic Plan will provide the foundation for how VGIN intends to lead the geospatial community from 2010 to 2015. To be most effective, this plan should be regularly referenced and updated through continued communication and input from the geospatial community.

Funding for this project came from VGIN as well as a grant from the Federal Geographic Data Committee (FGDC) "50 States Initiative." The FGDC grant was awarded to encourage implementation of statewide spatial data infrastructures, provide guidance on planning activities, encourage partnerships and alliances, and provide a uniform national framework for strategic and business plans.[2]

Touchstone Consulting Group assisted with the strategic planning process and the creation of the Strategic Plan.

KEY TERMS

The following are key words and definitions used throughout the Strategic Plan:

50-States Initiative	A federal initiative from the FGDC to "develop and implement statewide strategic and business plans that will facilitate the coordination of programs, policies, technologies, and resources to enable the coordination, collection, documentation, discovery, distribution, exchange and maintenance of geospatial information in support of the NSDI"[3]
Cadastral Layer	A data layer indicating real property ownership or parcels (one of the seven NSDI Framework Data Layers)

Elevation Data Layer	A data layer representing the surface of the earth in a consistent fashion (datum, unit, projection). Some of the common applications are for aerial photo orthorectification, shaded relief, contour generation, hydrologic modeling, and deriving land form characteristics (one of the seven NSDI Framework Data Layers)
Geodetic Control	The use of widely spaced permanent monuments to compute distances between relative positions (one of the seven NSDI Framework Data Layers)
Geospatial Community	Used to describe professionals in state government, federal government, local government, academia, private sector, non-government organizations who work in the geospatial arena, and the users of their services
Government Units Data Layer	A data layer that represents the governmental political units such as cities and counties (one of the seven NSDI Framework Data Layers)
Hydrography Data Layer	A data layer representing surface waters using common features such as lakes, ponds, rivers, streams, canals and oceans (one of the seven NSDI Framework Data Layers)
Integrated Services Program (ISP)	An area of the Virginia Information Technology Agency (VITA) comprising the VGIN and Public Safety Communications (PSC) divisions
ISP Regional Coordinator (Regional Coordinator)	Through the Integrated Services Program's (ISP) Regional Outreach Program, six regional coordinators are available to the localities to assist with E-9-1-1 and GIS
National Spatial Data Infrastructure (NSDI)	"The NSDI provides an environment within which organizations and technology interact to foster activities for using, managing, and producing geographic data"[4] Executive Order 12906 recommended that the federal government, in conjunction with state, local, and tribal governments, and the private sector, coordinate a NSDI "to support public and private sector applications of geospatial data in such areas as transportation, community development, agriculture, emergency response, environmental management, and information technology"[5]

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4 Source: The Federal Geographic Data Committee Web site: http://www.fgdc.gov/
5 Source: The White House: Office of the Press Secretary. *Executive Order12906: Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure*. April 11, 1994
http://govinfo.library.unt.edu/npr/library/direct/orders/20fa.html

| National Spatial Data Infrastructure (NSDI) Framework Data Layers	The data backbone of the NSDI is comprised of seven Framework Data Layers: 1) Geodetic Control, 2) Orthoimagery, 3) Elevation, 4) Transportation, 5) Hydrography, 6) Governmental Units, and 7) Cadastral (Parcel) Information
National States Geographic Information Council (NSGIC) Criteria	The NSGIC established nine criteria to help measure the effectiveness of statewide geospatial coordination efforts. Please see page 20 for a review of how Virginia scores based on these criteria
Orthoimagery (or Orthophotography)	An aerial photograph geometrically corrected for camera tilt and terrain to have uniform scale and the vertical perspective of a map (one of the seven NSDI Framework Data Layers)
The Federal Geographic Data Committee (FGDC)	The FGDC is leading the national effort to support the NSDI
Transportation Data Layer	A data layer used to model the geographic locations, interconnectedness, and characteristics of the transportation system, including multiple modes of travel (one of the seven NSDI Framework Data Layers)

STRATEGIC PLANNING APPROACH AND METHODOLOGY

As a state agency that provides unique geospatial services to its clients, VGIN's work and the overall work of the geospatial community at large are intertwined and interdependent. The strategic planning process has been a joint effort of VGIN and its many diverse stakeholders.

GIS stakeholders include the VGIN Advisory Board, VGIN staff, local government, state government, federal government, planning district commissions (PDCs), non-governmental organizations (NGOs), public safety, academia, the private sector, and the general public. The strategic planning approach has been one that is stakeholder-driven and rooted in data collection and analysis.

Extensive information was collected and analyzed concurrently through a combination of methods that include:

- Meetings with VGIN staff

- One-on-one stakeholder interviews

- Online stakeholder surveys

- Regional town hall meetings and webinars around the Commonwealth

- Online prioritization homework for town hall meeting participants

- Meeting with the VGIN Advisory Board

- Two-week public comment period on the draft Strategic Plan.

Strategy S-Curve: A High Level Graphical Depiction of the Strategic Planning Process
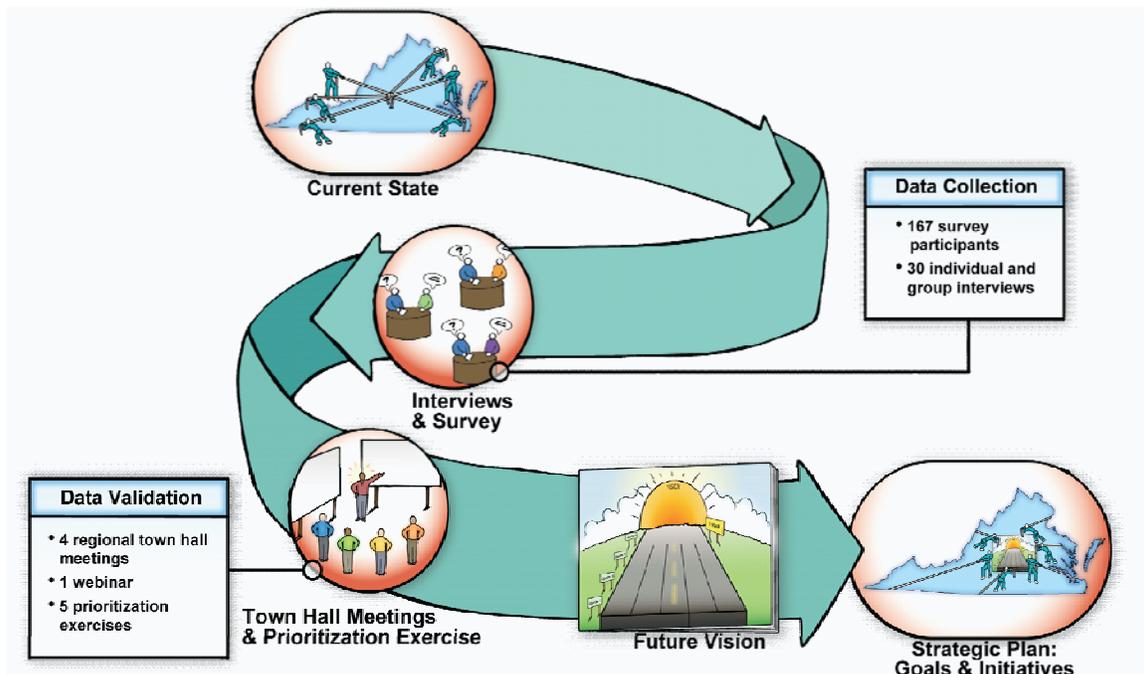
Overall, this methodology provided three fundamental aspects of the Strategic Plan:

- A big-picture view of the current state of VGIN's work and GIS in the Commonwealth, including its strengths and weaknesses

- A future vision for VGIN, one that aligns its day-to-day work, its mandate, and the many expectations from stakeholders

- A clear list of goals and initiatives for VGIN to focus on in the coming five years.

Online stakeholder surveys

Members of the geospatial community were invited to complete an online survey consisting of 16 questions to help VGIN understand the following:

- Which town hall meeting if any they would attend

- How GIS is used in the Commonwealth

- The needs of the geospatial community

- How VGIN can improve its services to assist the Commonwealth.

A total of 167 members of the geospatial community participated in the survey. Those who completed the survey represented local, state, and federal government, Planning District

Commissions (PDCs), NGOs, academia, the private sector, utility companies, and others. The majority of respondents represented local (46.7%) and state (26.3%) government.

ONLINE SURVEY PARTICIPATION

STAKEHOLDER GROUP	RESPONSE PERCENT	NUMBER OF RESPONDENTS
Local Government	46.7%	78
State Government	26.3%	44
Private Sector	7.2%	12
Planning District Commissions (PDCs)	5.4%	9
Academia	4.8%	8
Federal Government	3%	5
Utility Companies	3%	5
Non Governmental Organizations	1.8%	3
Other	1.8%	3
Total	100%	167

Participants answered questions related to the purpose of their organization, the data layers they use and would like to use, major challenges, changing technology, experiences with VGIN, and what services they would like to see VGIN provide. The data generated from this survey was used to help identify priorities and potential tasks for VGIN.

(For complete survey results, see Appendix D.)

One-on-One Stakeholder Interviews

Touchstone staff conducted over 30 interviews with the geospatial community. The interviews were conducted in person and by phone, with small groups and with individuals. Roughly 12 questions (plus additional sub-questions) were asked to solicit input on:

- The present conditions in the geospatial community
- An ideal future for the geospatial community
- Present barriers that exist
- The role that VGIN can play in reaching its future state.

The themes that consistently emerged though the interview process identified a generally high level of satisfaction among geospatial users. Interviewees recognized that in many areas, GIS is meeting the needs of the Commonwealth. They spoke of the strong commitment that exists to improve GIS and that VGIN, with its professional personnel and valued products and services, should play a critical role in creating these improvements. Many of the needed improvements that interviewees wished to see addressed the varying levels of fragmentation that they believe currently exist in the geospatial community. The interviews provided general themes and patterns of information that were then validated with the VGIN staff and stakeholders at the regional town hall meetings held around the Commonwealth.

INTERVIEWS FROM THE GEOSPATIAL COMMUNITY

STAKEHOLDER GROUP	NUMBER INTERVIEWED
State Government	8
Local Government	6
VGIN Advisory Board	6
Academia	3
Private Sector	3
Federal Government	2
Planning District Commissions (PDCs)	1
Non Governmental Organizations	1
Total	30

Meetings with VGIN Staff

VGIN staff played a very active role in developing the strategic planning process and validating the themes and patterns of information heard from the geospatial community. VGIN staff provided information to help town hall meeting participants understand day-to-day

responsibilities, the full range of products and services available, the source of VGIN funds, the roles of the regional coordinators, and how VGIN is meeting its mandate. In more personal conversations, VGIN employees discussed the unique value that they provide to their customers and how they see the future of their organization.

Town Hall Meetings around the Commonwealth

The town hall meetings, held at four locations across the Commonwealth, served as the heart of the strategic planning process. The purpose of each meeting was to bring together GIS stakeholders in support of the development of a five-year strategic plan for VGIN. The outcomes were to:

- Validate a big-picture view of GIS in the Commonwealth

- Take the first steps towards creating a future vision for GIS

- Gather ideas to improve VGIN's organizational alignment (in order to help VGIN move toward a future vision)

- Understand the next steps in the development of VGIN's strategic plan.

VGIN conducted outreach efforts to recruit a broad base of stakeholder participation at each meeting. The following table shows the diverse participation at each town hall meeting:

TOWN HALL MEETING PARTICIPATION

STAKEHOLDER GROUP	CULPEPER	RICHMOND	ROANOKE	TIDEWATER	SOUTHWEST WEBINAR
Local Government	11	8	27	19	4
State Government	3	30	4	2	3
Private Sector	4	5	2	4	3
Federal Government	1	2	0	5	2
Planning District Commissions (PDCs)	1	2	2	2	1
Academia	1	3	3	0	0
Non Governmental Organizations	1	0	0	2	1
Other	0	0	1	0	0
Total	22	50	39	34	14

During these meetings VGIN demonstrated its commitment to a stakeholder-driven strategic planning process by listening to stakeholder concerns and remaining open to feedback and new ideas that emerged from the meetings. Stakeholders were encouraged to openly participate with the understanding that much of their input would go into the development of VGIN's Strategic Plan.

The town hall meetings generally were divided into three sections. The first section was to validate the themes and patterns that we learned about GIS in the Commonwealth. Participants were asked if these themes resonated and described their overall personal experiences. In many cases, participants said that it did. In one town hall meeting, an individual said "it sounds like you are reading my responses from the online survey!" This section of the meeting was also an opportunity for people to tell VGIN if something was missed or not described accurately. In many cases, participants said that the themes provided differed slightly for their region or locality.

The second section of the town hall meetings was a visioning exercise. The goal of this section was to move people to think outside their day-to-day experience of GIS and VGIN, and to envision an ideal future state for GIS in the Commonwealth. Participants were advised that in order for VGIN to create a five-year strategic plan, VGIN must first have an understanding of what the geospatial community is working towards. Participants worked in small groups to develop a sentence or statement that best describes their vision for GIS in the Commonwealth.

The third and last section of the town hall meeting focused on aligning VGIN's day-to-day work, its mandate, and stakeholder expectations. VGIN learned that while it is carrying out its mandate and meeting some stakeholder expectations, there are other areas that stakeholders believe VGIN needs to focus on. Participants were eager to examine those things that VGIN should do more in order to better align the organization and set VGIN on a path towards achieving its GIS vision. By the end of the meeting, participants had developed a list of priorities they believed VGIN should focus on in its day-to-day work and its overall strategy.

Stakeholder Participation at Town Hall Meetings
- Culpeper (September 15): 30 participants
- Richmond (September 18): 50 participants
- Roanoke (October 1): 39 participants
- Tidewater (October 13): 34 participants
- Southwest Webinar (October 21): 15 participants
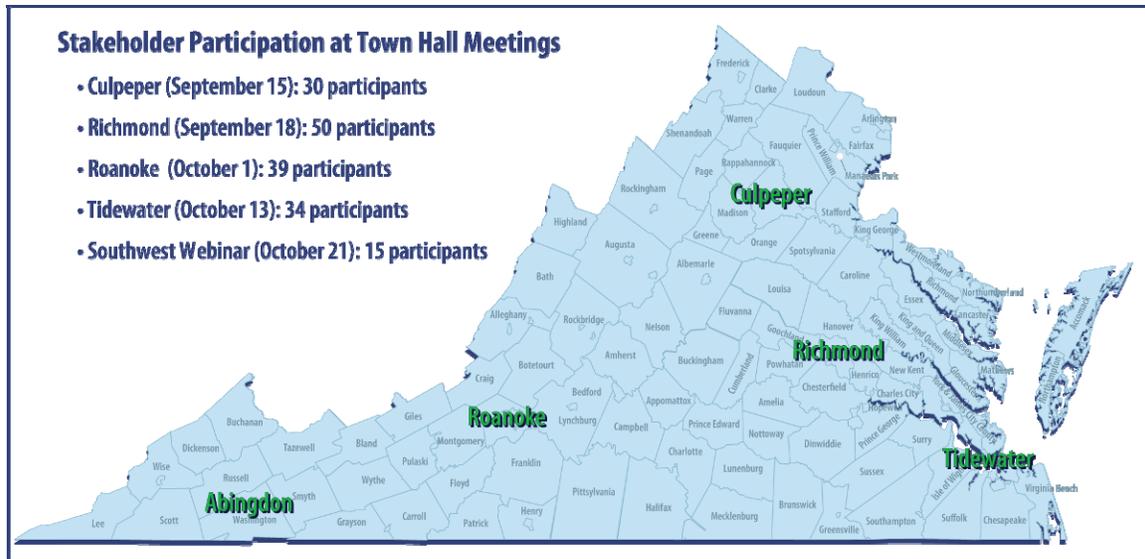
Southwest Region Webinar

In an effort to bring in stakeholders from each region of Virginia, VGIN hosted a webinar for the Southwest region on October 21, 2009. Originally, VGIN planned to host a town hall meeting in the southwest region, however due to a scheduling conflict the format was changed to a webinar to accommodate more participants. The webinar, although shorter in length, followed the same design as the town hall meetings but excluded the visioning exercise.

Online Prioritization Homework for Town Hall Meeting Participants

As a follow-up to the town hall meetings, participants were emailed a link to an online homework assignment. The assignment asked participants to rank in order of importance the list of priorities they developed during the last section of the town hall meeting. This assignment became an important tool to help VGIN narrow down a long list of priorities and focus on those key services that stakeholders believed were critical to VGIN's success and the success of GIS in the Commonwealth.

(For a detailed look at the ranking of priorities from the town hall meetings, please see Appendix B.)

Meeting with the VGIN Advisory Board

On October 14, 2009, an overall description of VGIN's strategic planning for GIS in the Commonwealth was presented to VGIN's Advisory Board at its regular quarterly meeting. The purpose of this meeting was to inform and engage VGIN Advisory Board members in the strategic planning process and its next steps. The outcomes were:

- An understanding of VGIN's strategic process, including what has been accomplished to date and what is to come

- An understanding of the GIS information that has been gathered during the strategic planning process

- Suggestions from the board on how VGIN can implement the strategic plan.

Advisory Board members actively asked questions and discussed the strategic planning process. While the information presented was new, it did not come as a surprise to most board members. When asked what, if anything, surprised them about the information presented, one board member commented that he was surprised that the many accomplishments that the geospatial community has achieved in Virginia was not a more substantial part of the information gathered.

The VGIN Advisory Board will meet again on January 6, 2010 to formally endorse the VGIN 2010-2015 GIS Strategic Plan.

Two-Week Public Comment Period on the Draft Strategic Plan

VGIN's stakeholder-driven approach to the strategic planning process culminated with a two-week public comment period (from December 9 – 23, 2009) on the draft Strategic Plan. In a last effort to solicit input, geospatial stakeholders – including but not limited to online survey participants, town hall meeting participants, and VGIN Advisory Board members – were emailed a link to provide feedback on the draft Strategic Plan. Using the online survey tool Survey Monkey, participants were asked to provide general comments and upgrades to the overall plan, and were asked the following questions about each section of the plan:

- What did you like?

- What do you think may be missing?

- What are some ideas on how it could be improved?

- Is this plan reflective of what you heard during the town hall meetings (if you attended)?

Timeline of Activities

The following is a chronological list of the components of the strategic planning approach:

STRATEGIC PLANNING TASK	TIME	DESCRIPTION
Strategic Plan Process Development	July, 2009	Developed the process for developing the Strategic Plan including, data collection, stakeholder engagement, and VGIN Staff and Advisory Board participation
VGIN Staff Interviews	July, 2009	Conducted individual and group interviews with all members of the VGIN staff to develop a clear understanding of their purpose, mission, and day-to-day work, including the products and services provided to the Commonwealth
Stakeholder Interviews	August, 2009	Conducted face-to-face, group, and phone interviews with members of the geospatial community in Virginia
Online Survey	August – October, 2009	Distributed an online survey to members of the geospatial community in Virginia to understand the current state of GIS and identify stakeholder expectations
Regional Town Hall Meetings	September 15, 2009 (*Culpeper*) September 18, 2009 (*Richmond*) October 1, 2009 (*Roanoke*) October 13, 2009 (*Tidewater*) October 21, 2009 (*Southwest Webinar*)	Hosted and facilitated four regional town hall meetings and one webinar to engage the geospatial community in the strategic planning process, validate the information collected in interviews, and to identify the future vision and priorities of VGIN and the geospatial community
Online Prioritization Exercises	September – October, 2009 Immediately following each Town Hall Meeting	Town hall meeting participants ranked in order of importance a list of priorities identified during their town hall meeting
Presentation of Findings to the VGIN Advisory Board	October 14, 2009	Presented findings from the interviews, town hall meetings, and survey to the VGIN Advisory Board for input in the strategic planning and implementation process

STRATEGIC PLANNING TASK	TIME	DESCRIPTION
Strategic Plan Development	October – November, 2009	Developed the Strategic Plan based on input provided by the geospatial community through the interview, survey, and town hall meeting process
Public Comment Period	December 9 – 23, 2009	Provided the geospatial community the opportunity to provide upgrades and comments to the draft Strategic Plan
Strategic Plan Revision Period	December 24 – 31, 2009	Incorporated upgrades and comments into the Strategic Plan
VGIN Advisory Board Endorsement	January 6, 2010	Present the final Strategic Plan to the VGIN Advisory Board for endorsement

CURRENT SNAPSHOT OF GIS IN THE COMMONWEALTH

WHO IS VGIN?

History and Mission: VGIN is part of the Integrated Services Program (ISP) in the Information Technology Investment and Enterprise Services (ITI&ES) directorate of the Virginia Information Technologies Agency (VITA). VGIN and the VGIN Advisory Board were formed through legislation enacted in the Code of Virginia in 1997 after it was recognized that a formal coordinating body for GIS was needed at the state agency and local government levels. To this end, VGIN was charged with fostering the creative use of GIS by enabling a common basemap, reducing duplication of efforts and saving money in the process. This is to be achieved through the development of policies and guidelines, the compilation of a data catalog of available GIS data, establishing overall priorities for statewide data development, and creating products and services to support these efforts.

Business and Financial Model: VGIN is organized alongside the Public Safety Communications group, also a part of the ISP within the VITA. As such, VGIN's business model is aligned closely with the needs of Commonwealth-wide information technology and 9-1-1 business needs. VGIN's business model seeks to establish shared services that are common to the majority of GIS users to deliver both basemapping data and commonly utilized geospatial services. In addition, an enterprise approach to new data and application development, where appropriate, may provide efficiencies in resources.

VGIN's financial model is predominately funded by the Wireless Services Board (WSB) which sustains the Virginia Base Mapping Program's orthophotography and road centerline maintenance programs. The WSB recognized the value of this data being centrally managed and maintained for the benefit of 9-1-1, as well as the greater good of the Commonwealth. Additional revenue is generated by VGIN through the sale of these datasets, though the return has proved inadequate to sustain the products and organization independent of WSB funding.

Products and Services: VGIN's products and services are comprised of two main areas, application and data services. Under application services, VGIN provides geospatial project management, geospatial application hosting, geospatial needs assessment, and consulting.

Under data services, VGIN provides enterprise orthophotography and road centerline basemapping, enterprise geospatial metadata services, enterprise basemapping web map services, and other enterprise basemapping data coordination.

Division of Work: VGIN's division of work can be categorized into the following areas:

- **Application Services:** Geospatial Application Services (5% of current work)

- **Data Services:** Geospatial Data Management (60% of current work)

- **Geospatial Coordination:** Enterprise Geospatial Coordination, such as GIS user community communication/coordination/facilitation; email listservs, user group meetings and end user support (30% of current work)

- **Policy:** Enterprise Geospatial Policy, such as data model and standards development (5% of current work).

WHO IS THE GEOSPATIAL COMMUNITY?

Recognizing the vast and diverse community that makes up geospatial users, the strategic planning process strived to identify and gain participation from as many different stakeholders as possible. Those who participated in VGIN's strategic planning efforts include individuals from VGIN staff and Advisory Board, local government, state government, federal government, planning district commissions (PDCs), non governmental organizations (NGOs), public safety, academia, the private sector, and the general public.

However, other GIS stakeholders who did not participate in the strategic planning process but need to be a part of GIS outreach efforts were identified at the regional town hall meetings. These include but are not limited to individuals from Northrop Grumman (VITA's partner), the land development community, the military, the media, Virginia Association of Counties, wireless carriers, engineers and surveyors, Virginia's public school system, and realtors.

In the process of identifying the geospatial community in the Commonwealth, the levels of diversity that exist within that community were also identified. Sharp differences exist geographically, economically, culturally, and technologically across the Commonwealth, creating many "different Virginias." These differences impact the needs, expectations, and vision of GIS and VGIN's future work.

COMMON CRITERIA FOR THE 50 STATES INITIATIVE

In support of the FGDC's 50 States Initiative, the National States Geographic Information Council has established nine criteria to help states measure their efforts to coordinate geospatial activities. These nine criteria serve as a score card to help the Commonwealth understand their coordinating efforts.[6]

	NSGIC CRITERIA	STATUS	STATUS DESCRIPTION
1	A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans	In Place	The VGIN Coordinator, with the support of the VGIN Advisory Board, has the authority to foster the creative utilization of geographic information, recommend policies and guidelines, develop strategic plans, and establish geospatial priorities on behalf of the Commonwealth
2	A clearly defined authority exists for statewide coordination of geospatial information technologies and data production	In Place	The Code of Virginia establishes VGIN's mandate to coordinate GIS in the Commonwealth
3	The statewide coordination office has a formal relationship with the state's Chief Information Office (CIO)	In Place	VGIN is organizationally located within the agency led by the Commonwealth's CIO. The CIO serves on the VGIN Advisory Board
4	A champion (politician or executive decision-maker) is aware and involved in the process of geospatial coordination	In Place	The VGIN Advisory Board comprises geospatial champions from the Virginia House of Delegates and the Senate of Virginia, as well as executive decision-makers from state government, industry, and academia

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5 For additional information of the FGDC or the 50 States Initiative visit: http://www.fgdc.gov/

NSGIC CRITERIA		STATUS	STATUS DESCRIPTION
5	Responsibilities for developing the National Spatial Data Infrastructure (NSDI) and a state Clearinghouse are assigned	In Place	VGIN has the authority and responsibility to develop the NSDI framework data layers and a state Clearinghouse
6	The ability exists to work and coordinate with local governments, academia, and the private sector	In Place	VGIN works with each of these stakeholder groups and the VGIN Advisory Board is comprised of each of them
7	Sustainable funding sources exist to meet project needs	Partially in Place	VGIN receives funding from the Wireless 9-1-1 Services Board, but greater funding is needed to fulfill the needs of the Commonwealth and the initiatives set forth in this plan
8	GIS Coordinators have the authority to enter into contracts and become capable of receiving and expending funds	In Place	VGIN has the authority to enter into contracts and expend funds. A GIS Fund was established for this purpose
9	The federal government works through the statewide coordinating authority	Partially in Place	The federal government works with VGIN as well as other state agencies and localities when coordinating or transferring geospatial information and endeavors

At present, VGIN fully satisfies seven of the nine criteria established by the NSGIC and partially satisfies the remaining two.

Coordination was regularly cited by the geospatial community as an area in which they needed greater support. VGIN is the agency most aptly suited to meet all nine of the NSGIC criteria. As such this strategy finds that:

- VGIN is the geospatial coordinating agency of the Commonwealth and can best meet the NSGIC Criteria

- The geospatial community needs greater coordination and interaction from VGIN in order for the NSGIC criteria to provide the greatest value to the Commonwealth

GEOSPATIAL STRENGTHS IN THE COMMONWEALTH

Throughout the strategic planning process, the themes that consistently emerged identified a high level of satisfaction among geospatial users. Participants recognized that in many areas, GIS is meeting the needs of the Commonwealth. They spoke of the strong commitment that exists to improve GIS and that VGIN, with its professional personnel and valued products and services, is in a strong position to play a critical role in creating these improvements.

Below is a list of those services considered to be geospatial strengths in the Commonwealth.

Orthophotography: Since 2002, VGIN has provided high resolution statewide aerial photography in an effort to promote effective and economically efficient development and sharing of spatial resources across the Commonwealth. Through funding provided by the 9-1-1 Wireless Services Board, VGIN has provided updated aerial photography in 2006/2007 and 2009 (eastern half of Virginia). Aerial photography will be produced for the western part of the state in 2011. VGIN schedules complete statewide aerial flyovers every four years.

Aerial photography is currently provided to all localities at one-foot resolution; however, localities have the option to purchase resolution upgrades at a reduced cost. [7] Localities and other public agencies may use the VGIN contract to obtain ancillary data layers such as contours, structures, planimetrics, land cover, impervious surfaces, and LiDAR.

Road Centerline: VGIN provides a consistent and seamless statewide digital dataset of all roads in the Commonwealth of Virginia. The purpose for creating this dataset is to support the basemapping and 9-1-1 needs of state and local government, while achieving a singular, consistent and maintainable basemap dataset usable by all entities. The high quality of this product is available for use within a GIS or a computer aided dispatch (CAD)/9-1-1 system.[8] Integration with the state Department of Transportation (DOT) is partially complete and continues to be a priority.

Metadata Portal: VGIN provides an online portal for discovering and sharing geospatial data and metadata for the Commonwealth. Public users and members of federal, state, and local government agencies can search the portal's online catalog of the metadata to find public data they need.[9] State agencies are required to publish their geospatial metadata holdings on a quarterly basis.

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7 Source: VGIN Web site - http://www.vita.virginia.gov/isp/default.aspx?id=8412
8 Source: VGIN Web site - http://www.vita.virginia.gov/isp/default.aspx?id=8422
9 Source: VGIN Web site - http://gisdata.virginia.gov/Portal/

Statewide Coordinator: Through the statewide coordinators office (VGIN), Virginia is able to provide datasets including Orthophotography and Road Centerline, as well as a geospatial catalogue in the form of the Metadata Portal. The existence of a statewide coordinating office allows Virginia to coordinate and communicate geospatial activities amongst the many independent agencies and departments using geospatial information.

Ad-hoc Communication: Virginia has a wealth of geospatial data and information created by hundreds of federal, state, local, private, and non-profit agencies. Through ad-hoc communication, individuals and agencies can often access existing datasets provided by other agencies and organizations. Other communication occurs through established VGIN email listservs, regional and state agency user group meetings, and the VGIN Web site.

Educational Endeavors:

- Middle and High School Level: Through the Geospatial Instructional Applications Initiative offered by the Virginia Department of Education in conjunction with ESRI, all public middle and high schools in the Commonwealth are eligible to receive ArcView® Geographic Information Systems (GIS) software. This offers a "valuable instructional tool and opportunity to engage students in important educational experiences with specific emphasis in agriculture education, geography, science, and technology education while providing potential for curriculum connections in all subjects."[10]

- Community College Level: "The Virginia Space Grant Consortium has been awarded a grant of $894,228 by the National Science Foundation's Advanced Technological Education program (NSF-ATE) for the Geospatial Technician Education through Virginia's Community Colleges (GTEVCC) project. Project partners include the Virginia Community College System (VCCS), John Tyler Community College, Tidewater Community College, Virginia Western Community College, and the Virginia Geospatial Extension Program at Virginia Tech."[11]

- College and University Level: The Universities and Colleges in Virginia provide a wealth of training and educational opportunities on geospatial technologies and services.

VGIN Staff: VGIN has full-time staff composed of geospatial practitioners possessing an array of geospatial expertise. In interviews and town hall meetings, the VGIN staff was identified as leaders in the geospatial community, and a 2009 satisfaction survey indicated a 95.7% favorable opinion.

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10 DOE Memo: http://www.doe.virginia.gov/VDOE/Instruction/CTE/te/Geospatial/InformationMemo.pdf
11 The Virginia Space Grant Consortium: http://www.vsgc.odu.edu/GTEVCC/

Funding: The Commonwealth of Virginia has identified the 9-1-1 Fund for orthophotography and road centerline management as a substantial funding source for VGIN.   Other funding comes from grants and the sale of products and services.

GEOSPATIAL WEAKNESSES IN THE COMMONWEALTH

As stakeholders identified geospatial strengths in the Commonwealth, they also spoke of a commitment to go beyond what they are currently able to do and put in place new, needed efforts to make geospatial services interoperable. The list below identifies current weaknesses that need to be addressed to move the geospatial community towards a more interoperable geospatial system. Many of these issues are linked and interdependent, leading to greater weaknesses in many areas.

Clearinghouse: There is currently no clearly defined central repository for geospatial data in the Commonwealth. While the Metadata Portal has begun to serve as a catalogue of geospatial information, the geospatial community needs a "one stop shop" to access the geospatial data that exists in the Commonwealth.

Access to Data: Currently there are no mechanisms in place to easily share and distribute data. While many agencies in the Commonwealth have developed excellent geospatial data, it can be cumbersome for other agencies to access this information. As a result, agencies routinely duplicate efforts unknowingly and spend unnecessary resources.

Accuracy of Data: Without a clearly defined central clearinghouse, it can be difficult to guarantee the accuracy of specific datasets.

Standards: With the exception of the Metadata Portal, there are inconsistent standards for the creation, use, or sharing of geospatial data in the Commonwealth. This has limited the ability of the geospatial community to share and use geospatial data created by other agencies and has lead to duplication of efforts and time.

Additional Data Layers: Only three of the seven NSDI Framework Data Layers (orthophotography, transportation and hydrography) are maintained at a statewide level. VGIN currently provides orthophotography and road centerline data for the Commonwealth, while the hydrography is maintained through collaborative state agency efforts. The other four NSDI Framework Data Layers, however are either not available or fully developed to meet user needs at a statewide level. Administrative units, elevation, geodetic control, and cadastral data layers currently exist at varying degrees of accuracy and completeness throughout the Commonwealth.

Coordination: One of the biggest weaknesses identified is the overall lack of coordination as it relates to data
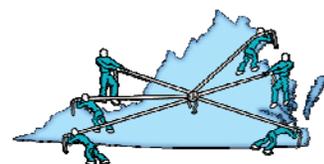
standards, and data collection efforts. This has led to duplication of efforts and the inability to share data in seamless fashion.

Communication: There is an inconsistent degree of organized communication between members of the geospatial community at all levels of government. Through the ISP Regional Coordinators, VGIN has begun to increase communication and coordination between the state and localities and between localities, however, approximately 50% of those surveyed had not had any contact with their Regional Coordinators. This is one area where the system is already in place to easily support an increase in communication.

Funding: Additional funding is needed for VGIN to provide the services expected and needed by the geospatial community and the Commonwealth of Virginia. At present, the funding provided by the 9-1-1 Wireless Services Board is able to currently sustain VGIN, however, for the VGIN to succeed in implementing many of the geospatial services and solutions, a more sustainable funding source must be identified.

Insufficient Geospatial Understanding by Decision Makers: The majority of decision makers in the Commonwealth do not have a strong understanding of how geospatial information can help the Commonwealth attain better solutions. This problem is not atypical for Virginia. The geospatial community needs to better market its business case and geospatial benefits so that they are factored into the state's overall decision making process.

Metadata Portal: State agencies are required to report their geospatial metadata holdings to VGIN on a quarterly basis. Participation by localities is voluntary and as a result participation has been limited.

Education and Training Opportunities: While geospatial educational opportunities now permeate the education system in Virginia, many geospatial practitioners have found it difficult to get practical training in their localities. Additionally, there is insufficient coordination between educational institutions and the geospatial community. The private sector suggests those entering the geospatial workforce from educational institutions need improved core competencies.

IT Issues: The equipment, services, and security measures offered by the VITA do not always meet the needs of state agencies using geospatial technology.

A SHARED VISION OF GIS IN THE COMMONWEALTH

CREATING VGIN'S VISION

In each of the town hall meetings (excluding the Southwest Webinar), geospatial stakeholders broke into groups to develop a vision statement for GIS in the Commonwealth. Although the

vision statements looked quite different, attendees in all meetings touched upon the same themes. These themes consist of efforts to address the weaknesses described in the section above. The themes identified in the visioning exercise include:

- Seamless movement of geospatial information

- A clearinghouse of geospatial information

- Comprehensive mapping

- Greater access, awareness, education, and coordination.

VGIN adopted a Vision Statement based on the language and input provided by the town hall meeting participants, *(for a complete list of vision statements developed in the Town Hall Meetings, please see Appendix C).*

VGIN'S VISION

Using geographic knowledge to create a better Virginia

This vision represents VGIN's aims to use geospatial information as a knowledge resource for all of Virginia through improved decision making and the development of geospatial solutions. The strategic goals and initiatives set forth in this strategic plan are designed to guide VGIN in its pursuit of fulfilling this vision.

STRATEGY: IMPROVING VGIN'S ALIGNMENT AS A ROADMAP TOWARDS ACHIEVING ITS VISION

The strategic planning process analyzed and received stakeholder input on three important aspects of VGIN: its day-to-day work, its mandate, and stakeholder expectations.

According to Virginia Code, VGIN is mandated to "foster the creative utilization of geographic information and oversee the development of a catalog of GIS data available in the Commonwealth."[12]

To meet this mandate, the VGIN staff currently allocates 60% of its time toward geospatial data management, 30% toward geospatial coordination, 5% to application services, and 5% toward geospatial policy. While the geospatial community has found its interaction with VGIN to be 95.7% favorable (according to a 2009 satisfaction survey), it also identified specific areas in which the services VGIN provides could be increased and improved upon. These areas were

12 Virginia Code § 2.2-2026 and § 2.2-2027

further developed and refined through the prioritization exercise that followed each town hall meeting.

Based on the feedback provided in the interviews, surveys, town hall meetings, and prioritization exercises, the following three strategic goals and six initiatives were created to align VGIN's work, mandate, and stakeholder expectations and set VGIN on a course towards achieving its vision.
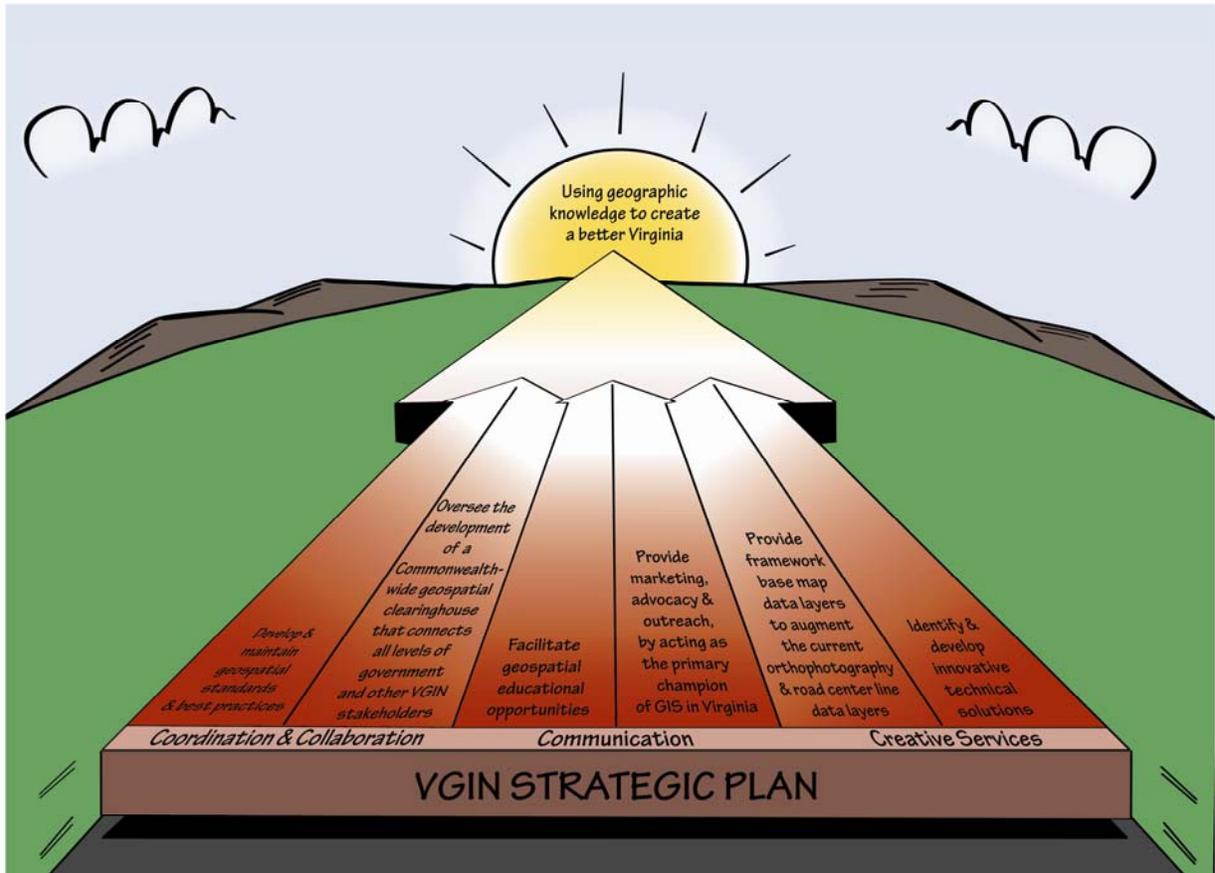
STRATEGIC GOALS FOR VGIN

GOAL 1: Coordination and Collaboration: Provide greater coordination and facilitate collaboration within the geospatial community

- **Initiative 1:** Develop and maintain geospatial standards
- **Initiative 2:** Oversee the development of a Commonwealth-wide geospatial clearinghouse that connects all levels of government and other VGIN stakeholders

GOAL 2: Communication: Increase communication and outreach to the general public, decision makers, and the geospatial community

- **Initiative 3:** Facilitate geospatial educational opportunities
- **Initiative 4:** Provide marketing advocacy and outreach by acting as the primary champion of GIS in Virginia

GOAL 3: Creative Services: Continue to create a platform for spatial solutions in the Commonwealth

- **Initiative 5:** Provide framework basemap data layers to augment the current orthophotography and road centerline data layers
- **Initiative 6:** Identify and develop innovative technical solutions

DEVELOPMENT OF STRATEGIC INITIATIVES AND IMPLEMENTATION PRIORITIES

When analyzing how best to align VGIN's work, town hall meeting participants provided valuable input on what they'd like to see VGIN keep doing, and what they'd like to see VGIN do more and less. These suggested services were then placed into a survey that allowed participants to prioritize the services. The information they provided served as the basis for the three strategic goals, six strategic initiatives, and the implementation priorities of this strategic plan.

Below is a table illustrating the top ten priorities (listed from first to tenth priority) from each of the town hall meetings.

PRIORITIZATION RESULTS FROM THE TOWN HALL MEETINGS					
PRIORITY	CULPEPER	RICHMOND	ROANOKE	HAMPTON ROADS	SW WEBINAR
1	Provide state-of–the-art orthoimagery	Provide state-of–the-art orthoimagery	Continue to provide state-of-the-art orthoimagery	Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	Facilitate GIS communication, coordination, and further involvement between Virginia's agencies, local governments, agencies from other states, and the federal government.
2	Maintain a statewide road centerline	Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	Coordinate or maintain a statewide road centerline	Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	Partner with ESRI to help promote GIS tools and applications to local GIS managers and decision makers (i.e. PDCs, etc.)
3	Expand the frequency and the diversity of data products offered (example: LIDAR, Hydrography, parcel data, orthoimagery)	Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	Develop and maintain geospatial standards	Provide state-of–the-art orthoimagery	Provide state-of–the-art orthoimagery
4	Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	Develop and maintain geospatial standards	Identify and share best practices	Take a more strategic role towards all aspects of GIS - VGIN should not become "the GIS arm of 9-1-1"	Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government

PRIORITIZATION RESULTS FROM THE TOWN HALL MEETINGS					
PRIORITY	CULPEPER	RICHMOND	ROANOKE	HAMPTON ROADS	SW WEBINAR
5	Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	Coordinate or maintain a statewide road centerline	Provide a statewide LIDAR basemap	Provide statewide coordination to eliminate the duplication of efforts	Create a VGIN steering committee composed of state and local stakeholders to provide guidance on all aspects of GIS
6	Coordinate regional cooperative efforts (including application development)	Coordinate regional cooperative efforts (including application development)	Facilitate Communication between Virginia's agencies, agencies from other states, and the federal government	Coordinate or maintain a statewide road centerline	Provide education on spatial analysis to inform "end users" on how GIS would benefit them
7	Develop and maintain geospatial standards	Develop Common Applications (such as the geocoder) to support agencies that cannot develop their own applications	Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	Develop and maintain geospatial standards	Maintaining funding for the services VGIN currently provides
8	Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	Provide recommendations and standards for implementing state and federal government mandates related to GIS	Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	Oversee the GIS policy of all state agency GIS departments	Keep doing things that others can not (example: creating specific data sets)
9	Identify and share best practices	Act as the liaison between VITA / Northrop Grumman and state agencies regarding the technological needs of GIS	Provide a standard statewide hydrography layer	Identify and share best practices	Provide greater access to data services

	PRIORITIZATION RESULTS FROM THE TOWN HALL MEETINGS				
PRIORITY	CULPEPER	RICHMOND	ROANOKE	HAMPTON ROADS	SW WEBINAR
10	Conduct outreach to the GIS community to educate customers on how to use VGIN services	Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	Fill in the GIS data "black holes," bringing all localities up to a minimum level	Provide cached basemap/reference services for online use	Take a more strategic role towards all aspects of GIS - branch out to other areas of GIS (not just public safety)

The most frequently suggested and the highest rated services formed the basis of the six strategic initiatives. For complete numerical data on how the tasks were prioritized, please see Appendix B.

VGIN 2015 STRATEGIC INITIATIVES

INITIATIVE
1: Develop and maintain geospatial standards and best practices

Description:

Establishing clear standards, guidelines, recommendations and best practices for the geospatial community in Virginia will significantly increase the ability to seamlessly transfer data between different organizations that rely on geospatial information. The effective use of standards will help eliminate data barriers that currently exist and improve interoperability between federal, state, local, academic and private entities. By identifying best practices from across the Commonwealth and the nation, VGIN can assist geospatial organizations in Virginia to improve day-to-day work.

VGIN will establish best practices for state and local agencies to implement federal and state geospatial mandates.

VGIN will help VITA understand the specific needs of geospatial organizations to ensure that technology and security requirements of geospatial organizations are met.

Outcomes:

- Standards for the format, semantics, and exchange of geospatial data

- Outreach materials on the benefits of standards for the geospatial community

- Identification and collection of best practices relating to geospatial services and technology

- Best practices for the implementation of federal or state mandates relating to geospatial services or technology

- Clear understanding by VITA as to the specific technological and security needs of VGIN's customers

Implementation Priorities:

- Coordinate regional cooperative efforts

- Provide recommendations and standards for implementing public framework data

- Act as liaison between VGIN and federal, state, local, academic and private entities regarding GIS

Initiative Tasks:

- Establish a stakeholder driven *Initiative Action Team* for this initiative

- Identify the particular areas in which VGIN will establish Commonwealth-wide standards for geospatial data

- Collect best practices related to the geospatial industry

- Review and update existing standards as appropriate

- Review existing standards from other states and organizations

- Conduct outreach and education to geospatial stakeholders to ensure their buy-in

- Create or identify incentives for complying with new geospatial standards

- Identify the technological and security needs of the geospatial community that uses VITA services

- Act as liaison between VITA and the geospatial stakeholder community to improve the quality of services VITA provides

INITIATIVE

2: Oversee the development of a Commonwealth-wide geospatial clearinghouse that connects all levels of government and other VGIN Stakeholders

Description:

The geospatial clearinghouse will provide a "one stop shop" for accessing geospatial data in the Commonwealth, whether it is hosted by VGIN or whether VGIN provides a "virtual gateway" to data stored elsewhere. This will help eliminate existing duplication of efforts and will provide easier access to information.

VGIN will leverage the Geospatial Enterprise Platform to provide this clearinghouse. The accuracy of data in the clearinghouse will be the responsibility of the business owners of the data.

Outcomes:

- An effective medium for providing access to the geospatial clearinghouse

- Identification of data sets that should be incorporated into the geospatial clearinghouse

- Standards for how data is stored, exchanged and updated through the geospatial clearinghouse

Implementation Priorities:

- Coordinate regional cooperative efforts

- Provide statewide coordination and interstate/federal collaboration to eliminate existing duplication of efforts

- Provide web services of framework data and functions where appropriate

Initiative Tasks:

- Establish a stakeholder driven *Initiative Action Team* for this initiative

- Identify the specific datasets in the Commonwealth that should be accessed through the clearinghouse

- Establish standards for the format in which datasets will be stored, exchanged, and updated through the geospatial clearinghouse

- Conduct outreach to state and local government GIS departments to explain the existence and benefit of the geospatial clearinghouse

- Provide training to state and local government GIS departments on how to use the clearinghouse and how to make data available

- Establish security requirements for access to the geospatial clearinghouse

INITIATIVE
3: Facilitate geospatial educational opportunities

Description:

VGIN and the VGIN Advisory Board will advocate for GIS education in general as well as provide for specialized training opportunities when budget and priorities allow. Specialized training opportunities that focus on specific areas of geospatial technology and services would provide significant benefit to VGIN customers who otherwise would not have the ability to further their skill sets.

VGIN will work with the private, public sectors and educational institutions to identify the core competencies that students should learn if they wish to begin a career in a geospatially oriented industry.

Outcomes:

- Provide a gateway to information related to GIS education in the Commonwealth

- Specialized training opportunities for VGIN customers that focus on specific areas of the geospatial industry

Implementation Priorities:

- Coordinate regional cooperative efforts

- Conduct outreach to the geospatial community to educate customers on how to use VGIN services

Initiative Tasks:

- Provide GIS education information access via the VGIN Web site

- Conduct outreach to state agencies and localities to ascertain where they would like to receive further training as it relates to their geospatial needs

- Facilitate geospatial training opportunities that allows all VGIN customers the ability to further their geospatial knowledge

- Continue working with existing geospatial educational endeavors such as the Virginia Space Grant Community College Initiative and the Geospatial Instructional Applications Initiative (which provides ArcView® GIS software to middle and high schools)

INITIATIVE
4: Provide marketing, advocacy, and outreach by acting as the primary champion for GIS in Virginia

Description:

Geospatial information enables public and private organizations as well as the general public to make better decisions. However, there is limited understanding of the importance of geospatial information or how it is beneficial.

VGIN and the VGIN Advisory Board are in a prime position to inform decision-makers and the public of the benefits of geospatial information and services. This will not only increase awareness of the geospatial industry, but also potentially increase available funding and inform decision makers of a valuable means of improving their decision making process.

Outcomes:

- An advocacy plan on behalf of the geospatial community in Virginia

- A general public that is more informed and educated on the benefits of geospatial information and the unique services VGIN offers

Implementation Priorities:

- Coordinate regional cooperative efforts

- Conduct outreach to the geospatial community to educate customers on how to use VGIN services

- Create messaging, value-add, and provide education on the benefits of GIS to the Commonwealth

Initiative Tasks:

- Conduct outreach to the public and geospatial community to inform them of the benefits of geospatial information

- Develop tools for the VGIN Advisory Board to enable them to promote the needs of the Virginia geospatial community

- Revise the VGIN Web site to make it more accessible and user friendly

- Develop an advocacy plan to represent the geospatial community in Virginia

INITIATIVE
5: Provide framework data layers

Description:

Statewide data layers, including the seven National Spatial Data Infrastructure (NSDI) framework layers, should be available at a statewide level in the Commonwealth. Local and state agencies currently use a variety of data layers including the seven NSDI framework layers, however not all of these are available at a statewide level. By facilitating the completion of statewide framework data layers, VGIN will enable consumption for decision makers and assist in eliminating duplication of efforts where they exist.

VGIN will continue the *Virginia Base Mapping Program* (VBMP) and expand it to the framework data layers. This program produces high resolution orthophotography (aerial photography) on a recurring basis for the entire Commonwealth to support state and local governments. In addition, the statewide road centerline (RCL) dataset is maintained using data sourced from local/9-1-1 and Virginia Department of Transportation. Insuring the maintenance of the orthophotography and RCL datasets should remain a priority for VGIN and the model currently used in the VBMP should be reutilized or adjusted to facilitate the creation of or access to additional data layers. Current trends in open access to data such as www.data.gov need to be considered for future data development.

Outcomes:

- Continued production and improvement of statewide road centerline data

- Continued production and improvement of statewide orthophotography

- Additional statewide framework data layers (including NSDI layers) as appropriate

Implementation Priorities:

- Coordinate regional cooperative efforts

- Expand the frequency and diversity of data products offered (example: framework layers)

- Provide state-of-the-art and current orthoimagery

- Maintain access to a statewide road centerline

- Provide web services to access framework data where appropriate

Initiative Tasks:

- Continue to produce aerial photography for the Commonwealth

- Assess the need for more frequent and accurate aerial photography

- Continue to coordinate access to a statewide road centerline data layer

- Identify and prioritize additional data layers for statewide creation and consumption

- Conduct outreach to the geospatial community to identify what data layers would provide the greatest value

INITIATIVE
6: Identify and develop innovative technical solutions

Description:

VGIN will work with state agencies and local governments to identify commonly needed geospatial technical needs that may benefit from a coordinated approach to technical solutions. Economies of scale may be achieved in the areas of financial and personnel resources.

Interested members of the geospatial community will be gathered to identify theme-based geospatial technical needs that can then be utilized to develop technical solutions. For example, natural resources/land conservation online map publishing needs are identified, and an application is built using these requirements that can be utilized by interested parties.

Outcomes:

- Outreach to the geospatial community to identify technical needs and potential solutions

- Coordinate and develop technical solutions

Implementation Priorities:

- Coordinate regional cooperative efforts

Initiative Tasks:

- Conduct outreach to the geospatial community to ascertain the need for commonly needed and state coordinated technical solutions

- Establish theme based geospatial technical working groups and facilitate their interaction

- Identify technical solutions through the working group

- Develop or coordinate specific technical solutions to meet the needs of Virginia's geospatial community

RECOMMENDATIONS FOR VGIN MOVING FORWARD

Successful implementation of the Strategic Plan will require considerable effort and coordination on behalf of VGIN and the geospatial community. The Strategic Plan identifies specific initiatives for VGIN to implement, but completing these initiatives necessitates continued participation and coordination of the VGIN Advisory Board and the geospatial community in Virginia. The goals and initiatives laid-out in this Strategic Plan will serve as a roadmap for VGIN's future efforts. VGIN will reassess the goals and initiatives on a yearly basis to clarify priorities and available resources.

The following outlines key activities VGIN should undertake while implementing the Strategic Plan:

HIGH LEVEL RECOMMENDATIONS

- **Secure Endorsement from the VGIN Advisory Board –** The VGIN Advisory Board is comprised of geospatial experts from varying fields as well as geospatial champions from the Virginia General Assembly. Their endorsement is critical to the success of the Strategic Plan.

- **Identify and implement a plan for VGIN's financial growth and sustainability –** VGIN does not currently have the resources to complete all six initiatives on its own. To meet the needs and expectations of the Commonwealth VGIN must identify additional sources of funding.

- **Involve federal partners when possible –** The federal government has significant resources related to GIS within the Commonwealth, yet they are frequently left out of coordination efforts. Federal incorporation into the implementation of the Strategic

Plan may result in improved alignment of state and federal goals as well as open the door to greater opportunities and collaboration between all levels of government.

COORDINATION AND COLLABORATION RECOMMENDATIONS

- **Improve VGIN's internal coordination –** VGIN should conduct more strategic planning meetings and develop an implementation plan for the VGIN staff as it pertains to the Strategic Plan.

- **Improve the use of VITA-ISP Regional Coordinators to conduct outreach to the local geospatial community –** The Regional Coordinators are a valuable resource for conducting outreach to local members of the geospatial community. Their involvement in outreach can greatly increase stakeholder buy-in to the Strategic Plan as well as other coordinating efforts of VGIN.

- **Improve alignment between VGIN and the Commonwealth Interoperability Coordinator's Office (CICO), 9-1-1/Public Safety Communications Division (PSC), and VDEM –** CICO and PSC have developed their own strategic plans that pertain to areas affecting geospatial resources and technology. VGIN should align its efforts where applicable to enhance common solutions and minimize the duplication of efforts.

COMMUNICATION RECOMMENDATIONS

- **Develop, market, and brand a more user friendly Web site –** The current VGIN Web site is difficult to locate and navigate. An easily usable Web site is essential to sustain clear communication with the geospatial community and effectively market VGIN services.

- **Develop an implementation outreach plan for the VGIN Advisory Board –** The VGIN Advisory Board is comprised of champions for GIS. An outreach plan will develop key ways to strategically leverage the Advisory Board to inform the Commonwealth of the benefits offered by geospatial information.

- **Improve the use of VITA-ISP Regional Coordinators to conduct outreach to the local geospatial community –** (see recommendation above under Coordination and Collaboration).

CREATIVE SERVICES RECOMMENDATIONS

- **Develop a Return On Investment (ROI) study for the Orthophotography and Road Centerline (RCL) Programs –** Members of the geospatial community continually identified the orthophotography and RCL programs as incredibly valuable. An ROI would help VGIN justify the value of easily accessible statewide framework data layers and potentially help them to secure future funding for additional framework data layers.

- **Identify potential services that could be outsourced to other agencies –** VGIN should explore outsourcing specific services (such as the development of specific NSDI Framework Data Layers) to other organizations (both public and private). This will allow VGIN to coordinate the development of necessary services while recognizing its limited resources. VGIN provides excellent services of high value to the geospatial community and the Commonwealth, but it cannot "do it all."

IMPLEMENTATION PLAN

While each of the strategic initiatives would provide significant value to the Commonwealth, it may be impossible for VGIN to accomplish each initiative simultaneously. As such, it is the recommendation of Touchstone that VGIN prioritize its implementation as such:

1. Provide Framework Basemap Data Layers to augment the current orthophotography and road centerline data layers

    - The continued production of orthophotography and RCL were the most frequently and highest regarded services offered by VGIN

    - Based upon a prioritization of user needs and available resources, VGIN will begin developing additional framework data layers

2. Develop and maintain geospatial standards and best practices

    - VGIN will actively engage the public and private sectors of the geospatial community in recognizing and adopting appropriate standards

3. Oversee the development of a Commonwealth-wide geospatial clearinghouse that connects all levels of government and other VGIN stakeholders

    - The development of the clearinghouse will depend on the creation of standards for content, accuracy, and formatting. It is logical to implement both initiatives simultaneously and with direct communication between the members of the geospatial community involved

The remaining three initiatives should be addressed on an ad-hoc basis as needed. VGIN currently provides support in each of these areas and should continue to do so until such time as they have the resources to establish *Initiative Action Teams* to address each on a more formal basis. Specifically, a business case and appropriate planning should be developed for each of the remaining initiatives.

4. Facilitate geospatial educational opportunities

5. Provide marketing advocacy and outreach by acting as the primary champion of GIS in Virginia

6. Identify and develop innovative technical solutions

SUMMARY

In conclusion, the findings from the strategic planning process support the goals, initiatives, priorities, and recommendations outlined above.

VGIN acknowledges that its Strategic Plan is ambitious; however, with appropriate funding, planning, and implementation, its goals are realistic and achievable. This Plan is designed to be a living document that will require regular input and updates from the geospatial community as needs shift and milestones are reached. Thanks to the input from its various stakeholders, this Strategic Plan will serve as VGIN's guide for improving its products and services that benefit the Commonwealth.

Virginia Geographic Information Network
Goals and Initiatives for the 2010 Five-Year Strategic Plan

VISION

Using geographic knowledge to create a better Virginia

STRATEGIC GOALS

Coordination and Collaboration	Communication	Creative Services
Provide greater coordination and facilitate collaboration within the geospatial community	Increase communication and outreach to the general public, decision makers, and the geospatial community	Continue to create and provide a platform for spatial solutions in the Commonwealth

INITIATIVES

Develop and maintain geospatial standards and best practices	Oversee the development of a Commonwealth-wide geospatial clearinghouse that connects all levels of government and other VGIN stakeholders	Facilitate geospatial educational opportunities	Provide marketing, advocacy and outreach by acting as the Primary Champion of GIS in Virginia	Provide framework basemap data layers to augment the current orthophotography and road centerline data layers	Identify and develop innovative technical solutions

IMPLEMENTATION PRIORITIES

Coordinate regional cooperative efforts

Provide recommendations and standards for implementing public framework data	Provide statewide coordination and interstate/federal collaboration to eliminate the duplication of efforts	Conduct outreach to the GIS community to educate customers on how to use VGIN services	Expand the frequency and diversity of data products offered (LIDAR, hydrography, etc.)
Act as liaison between VITA & private, state, local entities regarding the technology needs of GISogical	Provide Web services of framework data and functions	Create messaging, value-add, and provide education on the benefits of GIS to the Commonwealth	Provide state-of-the-art orthoimagery
			Maintain a statewide road centerline
			Provide Web services of framework data and functions

RECOMMENDATIONS FOR VGIN

Identify and implement a plan for VGIN's financial growth and sustainability

Develop an ROI study for orthophotography and RCL programs

Involve Federal partners when possible

Improve the use of VITA-ISP Regional Coordinators to conduct outreach to local geospatial community

Improve internal coordination **Staff:** 1. Hold more strategic planning meetings 2. Develop an implementation plan **Stakeholders:** Hold annual town hall meetings **Board:** Develop an implementation outreach plan for the VGIN Advisory Board	Develop an implementation outreach plan for the VGIN Advisory Board Develop, market, and brand a more user-friendly Web site	Identify services that could be outsourced to other agenices

The above graphic should serve as a visual representation of the VGIN 2010-2015 GIS Strategic Plan, including the strategic goals, initiatives, implementation priorities, recommendations, and how each relates to one another.

APPENDIX A: THE CODE OF VIRGINIA ESTABLISHING VGIN'S EXISTENCE AND MANDATE

§ 2.2-2025. DEFINITIONS.

As used in this article, unless the context requires a different meaning:

"Base map data" means the digitized common geographic data that are used by most geographic information systems applications to reference or link attribute or other geographic data.

"Division" means the Geographic Information Network Division.

"Geographic data" means data that contain either coordinates that reference a geographic location or area or attribute data that can be related to a geographic area or location.

"Geographic information system (GIS)" means a computerized system that stores and links geographic data to allow a wide range of information processing and display operations, as well as map production, analysis, and modeling.

§ 2.2-2026. GEOGRAPHIC INFORMATION NETWORK DIVISION ESTABLISHED.

There is established within VITA a Geographic Information Network Division (the Division), which shall foster the creative utilization of geographic information and oversee the development of a catalog of GIS data available in the Commonwealth. The Division shall be headed by a coordinator who shall be under the supervision of and report to the CIO. The Division shall exercise the powers and duties conferred in this article.

§ 2.2-2027. POWERS AND DUTIES OF THE DIVISION; DIVISION COORDINATOR.

A. The powers and duties of the Division shall include:

1. Requesting the services, expertise, supplies and facilities of VITA from the CIO on issues concerning the Division;

2. Accepting grants from the United States government and agencies and instrumentalities thereof and any other source. To those ends, the Division shall have the power to comply with such conditions and execute such agreements as may be necessary or desirable;

3. Fixing, altering, charging, and collecting rates, rentals, and other charges for the use or sale of products of, or services rendered by, the Division, at rates which reflect the fair market value;

4. Soliciting, receiving, and considering proposals for funding projects or initiatives from any state or federal agency, local or regional government, public institution of higher education, nonprofit organization, or private person or corporation;

5. Soliciting and accepting funds, goods and in-kind services that are part of any accepted project proposal;

6. Establishing ad hoc committees or project teams to investigate related technology or technical issues and providing results and recommendations for Division action; and

7. Establishing such bureaus, sections or units as the Division deems appropriate to carry out its powers and duties.

B. The Coordinator shall:

1. Oversee the development of and recommend to VITA the promulgation of those policies and guidelines required to support state and local government exchange, acquisition, storage, use, sharing and distribution of geographic or base map data and related technologies;

2. Foster the development of a coordinated comprehensive system for providing ready access to electronic state government geographic data products for individuals, businesses, and other entities;

3. Initiate and manage projects or conduct procurement activities relating to the development or acquisition of geographic data or statewide base map data or both;

4. Plan for and coordinate the development or procurement of priority geographic base map data;

5. Develop, maintain, and provide, in the most cost-effective manner, access to the catalog of Virginia geographic data and governmental geographic data users;

6. Provide, upon request, advice and guidance on all agreements and contracts from all branches of state government for geographic data acquisition and design and the installation and maintenance of geographic information systems;

7. Compile a data catalog consisting of descriptions of GIS coverages maintained by individual state and local government agencies;

   Nothing in this article shall be construed to require that GIS data be physically delivered to the Division. All state agencies that maintain GIS databases shall report to the

Division the details of the data that they develop, acquire, and maintain. Each agency shall submit quarterly reports to the Division specifying all updates to existing data as well as all data development and acquisition currently in progress. Data exempt from the Virginia Freedom of Information Act (§ 2.2-3700 et seq.) need not be reported to the Division.

8. Identify and collect information and technical requirements to assist the Division in setting priorities for the development of state digital geographic data and base maps that meet the needs of state agencies, institutions of higher education, and local governments;

9. Provide services, geographic data products, and access to the repository at rates established by the Division; and

10. Ensure the compliance of those policies, standards, and guidelines developed by VITA required to support and govern the security of state and local government exchange, acquisition, storage, use, sharing, and distribution of geographic or base map data and related technologies.

APPENDIX B: PRIORITIZATION HOMEWORK RESULTS FROM THE TOWN HALL MEETINGS

CULPEPER PRIORITIZATION HOMEWORK

STAKEHOLDER GROUP	NUMBER OF STAKEHOLDERS	
Local Government	8	80.0%
State Government	1	10.0%
Other	1	10.0%

PRIORITIES SELECTED	TOTAL SCORE	RATING AVERAGE	RESPONSE COUNT
Provide state-of-the-art orthoimagery	7.82	9.56	9
Maintain a statewide road centerline	7.73	7.73	11
Expand the frequency and the diversity of data products offered (example: LIDAR, Hydrography, parcel data, orthoimagery)	6.09	6.7	10
Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	4.27	6.71	7
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	3.63	4.44	9
Coordinate regional cooperative efforts (including application development)	3.37	6.17	6
Develop and maintain geospatial standards	3.36	4.11	9
Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	3.27	5.14	7
Identify and share best practices	2.64	3.63	8
Conduct outreach to the GIS community to educate customers on how to use VGIN services	2.55	5.6	5
Host and serve more ARCGIS services	2.36	3.71	7
Generate and maintain a statewide geospatial strategic plan	2.27	6.25	4
Review and comment on legislation with geospatial provisions	1.82	4	5
Create a public facing GIS application to allow non-GIS professionals access and use of Virginia's maps and data.	1.45	5.33	3
Provide greater opportunities for networking within the GIS community	1.09	2.4	5

Maintain a skills matrix of all GIS assets in the Commonwealth (both state and local)	0.46	2.5	2

RICHMOND PRIORITIZATION HOMEWORK

STAKEHOLDER GROUP	NUMBER OF STAKEHOLDERS	
State Government	11	45.8%
Local Government	8	33.3%
Private Sector	2	8.3%
Federal Government	1	4.2%
Academia	1	4.2%
Other	1	4.2%

PRIORITIES SELECTED	TOTAL SCORE	RATING AVERAGE	RESPONSE COUNT
Provide state-of-the-art orthoimagery	6.38	7.65	20
Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	4.88	6.5	18
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	4.75	6.71	17
Develop and maintain geospatial standards	4.63	6.17	18
Coordinate or maintain a statewide road centerline	4.58	6.11	18
Coordinate regional cooperative efforts (including application development)	4.17	6.25	16
Develop Common Applications (such as the geocoder) to support agencies that cannot develop their own applications	3.83	5.75	16
Provide recommendations and standards for implementing state and federal government mandates related to GIS	3.79	4.33	21
Act as the liaison between VITA / Northrop Grumman and state agencies regarding the technological needs of GIS	3.25	5.57	14
Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	2.96	4.18	17
Provide expertise to localities on grant applications and contracting	2.79	4.79	14

Provide education to locality decision makers on the importance of GIS	2.42	4.46	13
Coordinate the development of new data between agencies	2.42	4.83	12
Charge less for services	1.21	3.22	9
Increase the GIS stakeholder community in Virginia	1	3	8
Other	1	6	4
Spend less time on data production	0.96	4.6	5

ROANOKE PRIORITIZATION HOMEWORK

STAKEHOLDER GROUP	NUMBER OF STAKEHOLDERS	
Local Government	17	70.8%
Other	3	12.5%
Academia	2	8.3%
State Government	1	4.2%
Private Sector	1	4.2%

PRIORITIES SELECTED	TOTAL SCORE	RATING AVERAGE	RESPONSE COUNT
Continue to provide state-of-the-art orthoimagery	8.44	9.17	23
Coordinate or maintain a statewide road centerline	6.28	7.85	20
Develop and maintain geospatial standards	4.08	6.38	16
Identify and share best practices	3.96	6.6	15
Provide a statewide LIDAR basemap	3.88	6.47	15
Facilitate Communication between Virginia's agencies, agencies from other states, and the federal government	3.28	4.82	17
Provide education programs to train state agencies and localities on specific areas of GIS (example: metadata, orthoimagery, road centerline, etc.)	3.00	5.77	13
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	2.68	5.15	13
Provide a standard statewide hydrography layer	2.60	5.42	12
Fill in the GIS data "black holes," bringing all localities up to a minimum level	2.36	4.92	12
Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	2.08	6.5	8

Provide greater opportunities for networking within the GIS community	1.56	4.33	9
Act as the liaison between VITA / Northrop Grumman and state and local agencies regarding the technological needs of GIS	1.56	4.33	9
Conduct outreach to the GIS community to educate customers on how to use VGIN services	1.48	4.63	8
Coordinate regional cooperative efforts (including application development) to help limit redundancies	1.36	3.09	11
Provide regional meetings hosted by the Integrated Services Program	1.24	3.1	10
Review and comment on legislation with geospatial provisions	0.76	2.38	8
Deliver services and upgrades in a standard format so users do not have to	0.56	3.5	4
Stop trying to "do it all" on their own (take advantage of academic institutions	0.44	3.67	3
Other	0.44	5.5	2
Charge less for services	0.36	3	3

TIDEWATER PRIORITIZATION HOMEWORK RESULTS

STAKEHOLDER GROUP	NUMBER OF STAKEHOLDERS	
Local Government	10	62.5%
State Government	2	12.5%
Federal Government	2	12.5%
Private Sector	1	6.3%
Other	1	6.3%

PRIORITIES SELECTED	TOTAL SCORE	RATING AVERAGE	RESPONSE COUNT
Provide marketing and advocacy for GIS by acting as the primary champion of GIS in Virginia	6.89	7.86	14
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	6.31	6.31	16
Provide state–of-the-art orthoimagery	5.87	6.71	14
Provide statewide coordination to eliminate the duplication of efforts	4.56	6.08	12
Coordinate or maintain a statewide road centerline	3.94	5.25	12
Develop and maintain geospatial standards	3.69	5.36	11

Oversee the GIS policy of all state agency GIS departments	3.19	6.38	8
Identify and share best practices	2.94	4.27	11
Provide cached basemap / reference services for online use	2.57	5.13	8
Identify additional sources of funding	1.94	4.43	7
Encourage greater local government involvement in GIS	1.87	3.33	9
Help other agencies / localities with business plan development	1.56	3.57	7
Act more as a coordinator by outsourcing to other entities to provide base layers (e.g. statewide parcel layer)	1.50	4.8	5
Link to larger data sources (e.g. HIFLD, FEMA, DNR, etc.)	0.75	3	4
Provide point-based addressing	0.50	4	2
Take a more strategic role towards all aspects of GIS - VGIN should not become	0.44	1	7
Provide less data management at the local level	0.19	1.5	2

SOUTHWEST WEBINAR PRIORITIZATION HOMEWORK RESULTS

STAKEHOLDER GROUP	NUMBER OF STAKEHOLDERS	
Local Government	2	28.6%
State Government	2	28.6%
Private Sector	2	28.6%
Federal Government	1	14.3%

PRIORITIES SELECTED	TOTAL SCORE	RATING AVERAGE	RESPONSE COUNT
Facilitate GIS communication, coordination, and further involvement between Virginia's agencies, local governments, agencies from other states, and the federal government.	6.86	8	6
Partner with ESRI to help promote GIS tools and applications to local GIS managers and decision makers (i.e. PDCs, etc.)	6.57	7.67	6
Provide state-of-the-art orthoimagery	6.43	6.43	7
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	6.43	6.43	7
Create a VGIN steering committee composed of state and local stakeholders to provide guidance on all aspects of GIS	5.29	6.17	6

Provide education on spatial analysis to inform "end users" on how GIS would benefit them	4.86	4.86	7
Maintaining funding for the services VGIN currently provides	4.14	4.83	6
Keep doing things that others can not (ex. creating specific data sets)	2.57	3.6	5
Provide greater access to data services	2.14	5	3
Take a more strategic role towards all aspects of GIS - branch out to other areas of GIS (not just public safety)?	2.14	3	5
Coordinate with localities through the PDCs	2.14	3.75	4
Conduct more outreach to localities	2.00	3.5	4
Promote user group meetings (especially in the Southwest)	1.43	5	2

APPENDIX C: TOWN HALL MEETING VISION STATEMENTS

** Note: if the town hall meeting attendees identified a preferred vision statement it is listed in **bold**.*

Culpeper

- Easy access 24-7 to current accurate useful geospatial information and services for everyone

- Building a common geography to enhance our common wealth

- We provide the solution to all who ask "where?"

- **To enhance Virginia's common wealth and knowledge through geographic solutions**

Richmond

- Enable the citizenry of the Commonwealth to leverage authoritative geospatial information

- To have free movement of standardized geospatial information in order to facilitate cross-organizational integration and data analysis to the benefit of the Commonwealth

- For Virginian's to have easy access to current data and related geospatial tools and services

- **Using geographic knowledge to create a better Virginia** (selected as VGIN's Vision Statement)

- To provide the citizens with a seamless invisible capability that changes the way we see Virginia

- Enable spatial thinking

Roanoke

- Information is power, and that is GIS

  - GIS helps others be more efficient

  - Empowers people to make decisions expeditiously

  - GIS is green

- To be come proactive in providing accurate geospatial data and services for productive use and for consumption by all

- **Comprehensive mapping for today, for clarity and accessibility tomorrow**

- Themes – access to data, geospatial services, education, coordination

Tidewater

- We provide ubiquitous data access to a storehouse of information to aid in business decision making

- GIS helps provide people answers to questions, it is the first place people go to get the answers they need and to get accurate reliable information

- GIS PAAC: Problem solving, access, awareness and collaboration

- Making GIS as easy as a phone call, allowing people to communicate and collaborate to answer the questions that relate to the spatial component of our lives

Southwest Webinar

- No vision statements were created

APPENDIX D: ONLINE SURVEY

Virginia Five Year Strategic GIS Plan - Survey

1. What town hall meeting do you plan to attend?		Response Percent	Response Count
Culpeper – September 15 - 9:00 AM to 1:00 PM (Germanna Community College, 18121 Technology Drive - Culpeper, VA 22701 Room 104A-C)		15.9%	27
Richmond – September 18 - 12:00 PM to 4:00 PM (CESC-VITA Offices, Room 1222, 11751 Meadowville Lane Chester, VA 23836		26.5%	45
Abingdon – CANCELED - a webinar will be held on October 21 at 10:00am. Stakeholders from the Southwest are encouraged to attend the Roanoke meeting or to join us on the webinar.		5.9%	10
Roanoke – October 1 -12:00 PM to 4:00 PM (Roanoke Higher Education Center, Claude Moore Education Auditorium, 108 N Jefferson St, Roanoke, VA)		20.0%	34
Hampton Roads – October 13 - 9:00 AM to 1:00 PM (Hampton Roads Planning District Commission, Regional Boardroom, 723 Woodlake Drive, Chesapeake, VA 23320)		25.9%	44
I do not plan to attend a town hall meeting		5.9%	10
	answered question		170
	skipped question		0

VGIN VITA
Virginia Geographic Information Network

2. Please enter your name and organization: (Note: this question is optional and will be used to track RSVPs).			
		Response Percent	Response Count
Name		99.4%	154
Organization		99.4%	154
	answered question		155
	skipped question		15

3. What type of organization do you represent?			
		Response Percent	Response Count
Academic/Education		4.8%	8
City/Town Government		25.1%	42
County Government		21.6%	36
Federal Government		3.0%	5
Private Non-profit		1.8%	3
Private Sector		7.2%	12
Regional Organization		5.4%	9
State Government		26.3%	44
Utility Company		3.0%	5
Other		1.8%	3
	answered question		167
	skipped question		3

4. What data layers does your organization currently use?

		Response Percent	Response Count
Geodetic Control (survey-quality horizontal (distance) and vertical (elevation) control information)		45.6%	72
Elevation		73.4%	116
Cadastral (parcels, zoning, etc.)		76.6%	121
Hydrography (rivers, streams, drainage, etc.)		87.3%	138
Political Boundaries		88.6%	140
Transportation		86.1%	136
Orthoimagery		**90.5%**	**143**
Other		52.5%	83
		answered question	158
		skipped question	12
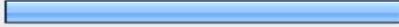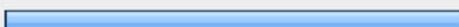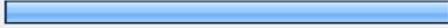
5. What challenges do you face in relation to GIS?

|		Response Percent	Response Count
Administrative buy-in / support		38.8%	59
Budget		**82.2%**	**125**
Proper strategic planning		43.4%	66
Lack of training		29.6%	45
Lack of staff expertise		32.9%	50
Rapidly changing GIS technology		60.5%	92
		answered question	152
		skipped question	18
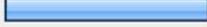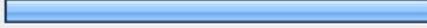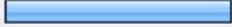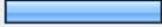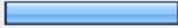
6. What are your views on hosted services (those in which some or all of the back-office processing is provided by a company other than the user's company)?

		Response Percent	Response Count
Very interested		23.5%	36
Somewhat interested		38.6%	59
Indifferent		21.6%	33
Slightly against the idea		11.8%	18
Completely opposed		3.9%	6
I have never heard of hosted services		0.7%	1
	answered question		153
	skipped question		17
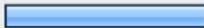
7. What are your views on the development of geospatial data and technology standards?

		Response Percent	Response Count
Very interested		60.4%	93
Somewhat interested		35.1%	54
Indifferent		3.9%	6
Slightly against the idea		0.6%	1
Completely opposed		0.0%	0
	answered question		154
	skipped question		16

8. Do you see value in collaborating with other jurisdictions and/or State Agencies?

		Response Percent	Response Count
Yes		98.7%	154
No		1.3%	2
If yes, with what agencies would you like to increase collaboration?			95
	answered question		156
	skipped question		14

9. Ideally how would you and your organization use GIS data?

		Response Percent	Response Count
Utilizing regional datasets		64.2%	95
Leverage Regional Data Storage Solutions		35.1%	52
Utilize Data replication to/from regional or state clearinghouses		50.7%	75
Develop solutions instead of spending time maintaining data		47.3%	70
Improve the accuracy and content of my GIS Data		70.3%	104
Consume base map web services such as orthophotography, geocoding, or geoprocessing tools		60.8%	90
	answered question		148
	skipped question		22
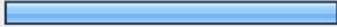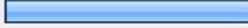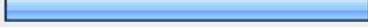
10. What applications and services would you like available?

		Response Percent	Response Count
VGIN hosted data repository		66.7%	98
GIS standards and best practices documentation		**81.6%**	**120**
Application hosting (e.g. ArcGIS Server apps)		46.3%	68
GIS Project Management		25.2%	37
GIS Expert Consulting		48.3%	71
Strategic and business plan development assistance		38.8%	57
	answered question		147
	skipped question		23
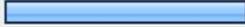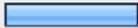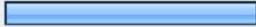
11. What would hinder your ability to reach your ideal future state for GIS?

		Response Percent	Response Count
Financial ability to keep up with changing technology		**74.8%**	**107**
Adequate staffing / expertise		62.9%	90
Limited technical know how		29.4%	42
Poor communication with my peers		13.3%	19
Lack of organizational support		34.3%	49
Lack of clear strategic direction		37.8%	54
	answered question		143
	skipped question		27

12. Have you ever worked with a VITA Regional Coordinator?

	Response Percent	Response Count
Yes	50.0%	72
No	50.0%	72
answered question		144
skipped question		26

13. Have you ever relied on VITA/VGIN staff for assistance?
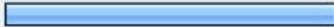
	Response Percent	Response Count
Yes	63.8%	95
No	36.2%	54
answered question		149
skipped question		21
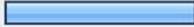
14. Have you ever used the VGIN metadata portal?

	Response Percent	Response Count
Yes	54.1%	80
No	45.9%	68
answered question		148
skipped question		22
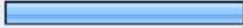
15. Has your experience with VGIN to date been positive?

		Response Percent	Response Count
Yes		95.7%	132
No		4.3%	6
Please elaborate			52
answered question			138
skipped question			32

16. Please rate how VGIN should assist your organization in achieving its goals:							
	Extremely Important	Important	Doesn't Matter Much	Unimportant	N/A	Rating Average	Response Count
Advocate for statewide geospatial initiatives and programs	**54.8% (74)**	40.0% (54)	3.7% (5)	0.7% (1)	0.7% (1)	1.50	135
Generate and maintain a statewide geospatial strategic plan	41.7% (55)	**45.5% (60)**	10.6% (14)	1.5% (2)	0.8% (1)	1.72	132
Advise on the prioritization of statewide geospatial activity	30.3% (40)	**50.0% (66)**	15.9% (21)	3.0% (4)	0.8% (1)	1.92	132
Review and comment on legislation with geospatial provisions	36.8% (50)	**55.1% (75)**	6.6% (9)	0.0% (0)	1.5% (2)	1.69	136
Serve as the focal point for geospatial communication and coordination	33.1% (44)	**57.9% (77)**	6.8% (9)	1.5% (2)	0.8% (1)	1.77	133
Identify opportunities for removing duplication of efforts across the geospatial stakeholder community	44.8% (60)	**45.5% (61)**	9.0% (12)	0.0% (0)	0.7% (1)	1.64	134
Foster geospatial education, particularly regarding educating officials and decision makers on the benefits of GIS	**47.4% (65)**	41.6% (57)	9.5% (13)	0.7% (1)	0.7% (1)	1.63	137
Oversee the development of a Commonwealth-wide geospatial data inventory that spans all levels of government	**45.1% (60)**	39.8% (53)	12.8% (17)	0.0% (0)	2.3% (3)	1.67	133
Identify and share best practices	35.6% (48)	**54.1% (73)**	8.1% (11)	0.7% (1)	1.5% (2)	1.74	135
Develop and maintain geospatial standards	31.6% (42)	**52.6% (70)**	12.8% (17)	2.3% (3)	0.8% (1)	1.86	133
						answered question	137
						skipped question	33