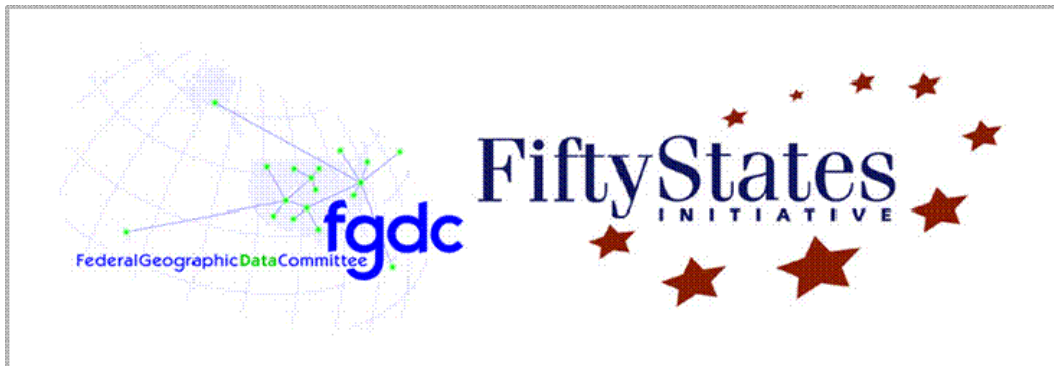# Advancing the Fifty States Initiative

Measuring Progress of the Fifty States Initiative Report

August 26, 2010

Contract Information

This document was produced under contract to the Federal Geographic Data Committee (FGDC):

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1   Executive Summary

The Federal Geographic Data Committee (FGDC) administers the Cooperative Agreement Program (CAP) to advance the National Spatial Data Infrastructure (NSDI). This report examines how the Fifty States CAP grant category has improved coordination on geospatial matters, and thereby positively impacted the growth of the National Spatial Data Infrastructure (NSDI). Both quantitative and qualitative data about how these grants benefited state government geospatial activities were analyzed.

The three analyses summarized in this report are:

1) Geospatial Platform Analysis from existing state plans

2) Survey of Fifty State grant recipients

3) Five case studies of states that have received grants

These analyses provide strong evidence that grants have been effective and useful for advancing the objectives of NSDI at the state-level and, by extension, advancing state contributions to the NSDI. These indications are particularly evident in the results of a survey of Fifty States grant recipients as well as in the case studies.

In addition, the GIS Inventory and the Geospatial Maturity Assessment efforts are discussed. Ways to make sure that meaningful measures on grant outcomes are captured in a consistent manner would help measure the overall progress on geospatial coordination and the effectiveness of the Fifty States Initiative. The emerging Geospatial Maturity Assessment (GMA) model holds potential and promise in this regard.

The important **findings** that this study provides concerning the effectiveness of the Fifty States CAP grants are as follows:

★ State case studies show that the Fifty States CAP grants have been a critical catalyst for planning, goal setting, and achievement. They also indicate that successful stakeholder outreach and involvement are key factors in the ultimate success of a project and support for the plan.

★ Survey responses from past grant recipients indicate that the grant has invigorated planning efforts, enhanced credibility with executive leadership, and helped to engage local government, all which are essential to building a sustainable NSDI.

★ Data on measures of state coordination collected for the period 2006-09 indicates that most states have established a baseline level of coordination, but that funding remains a primary concern.

★ Gaining the support of high-level executives and legislators during the planning process is an essential factor in advancing the coordination agenda.

★ States often experience lags and setbacks associated with lack of funding, the slow pace of organizational change, the time required for passage of enabling legislation, and dependence on a high degree of cooperation and effort (oftentimes voluntary) for the implementation of programs.

★ State historical experiences and means of progressing toward greater coordination vary widely, and there is no single path toward the goals of the Statewide Spatial Data Infrastructure (SSDI) and NSDI. In other words, states are starting from different levels of coordination and proceeding in distinct ways, to fit their particular circumstances. Some of the drivers for these differences are variations in: state political processes, levels of monetary and staff resources, sense of urgency, ability of stakeholders to articulate the need for geospatial data and data coordination, and organizational mandates and interrelationships.

★ Most states have yet to adopt the concept and vocabulary of Geospatial Platforms, with a couple of notable exceptions. However, to varying degrees,

their planning efforts have all touched on the prioritization of data, applications, and services, in the context of the strategic and programmatic goals. From these planning efforts, certain things are evident:

- o The seven traditional "Framework" themes are important to the states, as are addresses and building structures
- o Emergency management and homeland security applications are mentioned more often than other applications as statewide priorities
- o Services to support coordination (e.g. standards), geocoding, and hosting and provisioning are in high demand

The **key recommendation** of this report is to build on the success and leverage the gains made over the past several Fifty States CAP grant cycles with ongoing investment in the planning and coordination process, and related efforts. This includes expanded support for and linking of the GIS Inventory and GMA efforts to Strategic and Business Planning efforts, as well as Return on Investment (ROI) efforts. It also includes continued efforts to increase awareness across federal agencies of the successful outcomes of the planning process, and the value of products from the Fifty States Program for coordinated place-based strategies and contributions to NSDI. By example, the US Department of Transportation (USDOT) is following the FGDC GIS Strategic Planning Guidelines to gather stakeholder input to identify issues and alternatives for realizing the concept of "Transportation for the Nation" (TFTN) as a sharable national data set.

2   Background

2.1   OVERVIEW

Since the National Research Council coined the phrase National Spatial Data Infrastructure (NSDI) in 1993, there has been a great deal of thought and considerable effort made to advance what is still an incompletely defined concept. The Fifty States Initiative aims to encourage the creation of NSDI by pursuing the notion that the NSDI can best be achieved through active intergovernmental cooperation and coordination built on a sound strategic and business planning process.

2.2   PURPOSE

The purpose of this document is to assess how the Fifty States CAP grants may have enhanced geospatial coordination and advanced the development of the NSDI through the improvement of state government geospatial capacities. Coordination may produce benefits, both internally within a state and externally with a state's neighbors or federal government partners. This "Measuring Progress Report" assesses the Fifty States CAP grant program and its impacts on furthering state geospatial coordination and, by extension, the NSDI.

2.3   SCOPE

The scope of this analysis is a multi-faceted examination of the limited data available from several sources. It provides both quantitative and meaningful qualitative information that are individually and collectively suggestive of the success of the Fifty States Initiative in improving geospatial coordination.

2.4   FIFTY STATES CAP GRANT CATEGORIES

The Cooperative Agreement Program (CAP) administered by FGDC provides federal funding opportunities in support of NSDI, including two grant categories for states in support of the Fifty States Initiative. These grants (i.e. Fifty States CAP grants) purposefully seek to assist

states to develop strategic and business plans to improve geospatial coordination in support of their own statewide spatial data infrastructures (SSDI) and the NSDI. As the 2010 CAP guidance describes, state projects for this category are designed to help develop and implement "statewide strategic and business plans that will facilitate the coordination of programs, policies, technologies, and resources that enable the coordination, collection, documentation, discovery, distribution, exchange and maintenance of geospatial information in support of the NSDI and the objectives of the Fifty States Initiative Action Plan." Fundamentally, the Fifty States Initiative recognizes the need to build the NSDI with the essential involvement of state and local government partners.

Fifty States CAP grants have been awarded annually since 2006. The FGDC has awarded eight to twelve cooperative agreements of up to $50,000 each year, with the recipients matching 50% of the award with funding or in-kind services. In 2010, there were two Fifty States CAP categories – Category 3 for Strategic Planning (5 grants of $50,000 each), and Category 4 for Business Planning (5 grants of $30,000 each).

3   Summary of Geospatial Platform Report

3.1   SCOPE

The Geospatial Platform Report is summarized in this section. The full report took a fresh look at the National Spatial Data Infrastructure (NSDI) including reflection upon the geospatial platforms that are emerging or being prioritized amongst state governments and similar jurisdictions, such as the District of Columbia (DC) and the US Virgin Islands. Information about geospatial platforms was compiled from the existing Strategic and/or Business Plans that have been developed with funding assistance from the NSDI Cooperative Agreements Program (CAP) Fifty States Initiative. It was also supplemented by information from the ongoing GIS Inventory coordinated by the National States Geographic Information Council (NSGIC). This information was used to compile a State Summary Sheet for each state and to generate the summary graphs showing Data, Applications, and Services, respectively, as included in this report.

For this study, the primary information sources were the existing Strategic and/or Business Plans undertaken with grant assistance and guidance from the Fifty States Program. Not all states have completed such plans, and based on a time-boxed approach to this study, other sources were not exhaustively searched. Therefore, *this report was intended to be informative, not definitive.*

To limit the study effort to the available timeframe, the main emphasis was on gathering information about data, applications, and services *as documented at the time the state plans were published.* Therefore, it does not cover explicit outcomes and results since the plans were completed.

While the states were given helpful guidance from FGDC and NSGIC on how to approach their planning projects, they were not given explicit instructions on geospatial platforms, since the Fifty States Program pre-dates the adoption of this new lens for looking at

NSDI and geospatial assets. Therefore, any state-to-state comparisons based on the information derived from the plans is not the intention of this study. Rather, the informative roll-up view was the goal, while the individual State Summary Sheets stand on their own merits. At a minimum, the roll-up view provides some useful insights, and points to the ongoing need for a more comprehensive inventory of geospatial platform assets of the NSDI.

3.2   BACKGROUND

At the federal level, the concept of "geospatial platform" is envisioned as a platform of common geospatial data, applications, and services on a shared infrastructure, hosted and administered by authoritative sources on certified federal data centers and the commercial cloud (Source: FGDC Coordination Group Meeting, 8 June 2010). The term "geospatial platform" is relatively new to the national GIS vocabulary, but the notion of a platform is well established in Information Technology. Independent of any explicit national guidance, a number of states and other jurisdictions have adopted or developed their own vocabulary for geospatial platforms.

For example, DC defines a geospatial platform as follows: *"A platform is a base technology (or technologies) on which other technologies or processes are built. In addition, it may be construed as a whole economic unit in terms of aggregating budget costs to support it, including people, training, software, systems, and data."* (Source: DC GIS Business Plan, Draft Version 2, August 2009). Furthermore, DC subdivides its platforms into data, applications, and services as part of its portfolio management approach to its investment decisions. In this way, DC's approach is a microcosm of the contemplated national modernization initiative, with the same need to inventory and prioritize geospatial platforms for managing and improving the effectiveness and relevance of investments, in a strategic context.

3.3   RESULTS

The following bulleted points are not an exhaustive analysis of the study's findings. They represent quick observations that may be useful in furthering the discussion of geospatial platforms at the national level. They follow the key sub-headers of the State Summary Sheets, including Data, Applications, and Services.

DATA

★ Not surprisingly, there is heavy prioritization of the seven original framework themes, including *Geodetic Control, Cadastral, Orthoimagery, Elevation, Hydrography, Administrative Units, and Transportation.*

★ Other notable data priorities amongst the states include *Addresses*, and *Buildings & Critical Infrastructure* data.

★ While *Broadband Infrastructure* was not frequently prioritized, this is most likely due to when the plans were written, and the limited involvement of state GIS programs in broadband mapping prior to the American Recovery and Reinvestment Act of 2009.

APPLICATIONS

★ The top application priority across all of the states in the study was *Emergency Management / Homeland Security.*

★ There a number of other frequently prioritized applications, including: *Economic Development; Environment; Community Planning; and Transportation.*

SERVICES

★ Given the role of State GIS Coordinators in most of the planning efforts, it is not surprising that *Coordination / Standards / Best Practices* got the highest priority

★ Data-oriented services of high priority included *Basemap* and *Imagery*

★ *Geocoding* was also a high priority service, and so was *Hosting / Provisioning*

GENERAL

★ Many of the plans focused on governance and organizational issues, and were not specifically focused on data, applications, and services.

★ The compilation team reviewed 53 plans from 38 jurisdictions for this study.

The following three charts summarize findings from the state plans that were analyzed for information about Data, Applications, and Services.
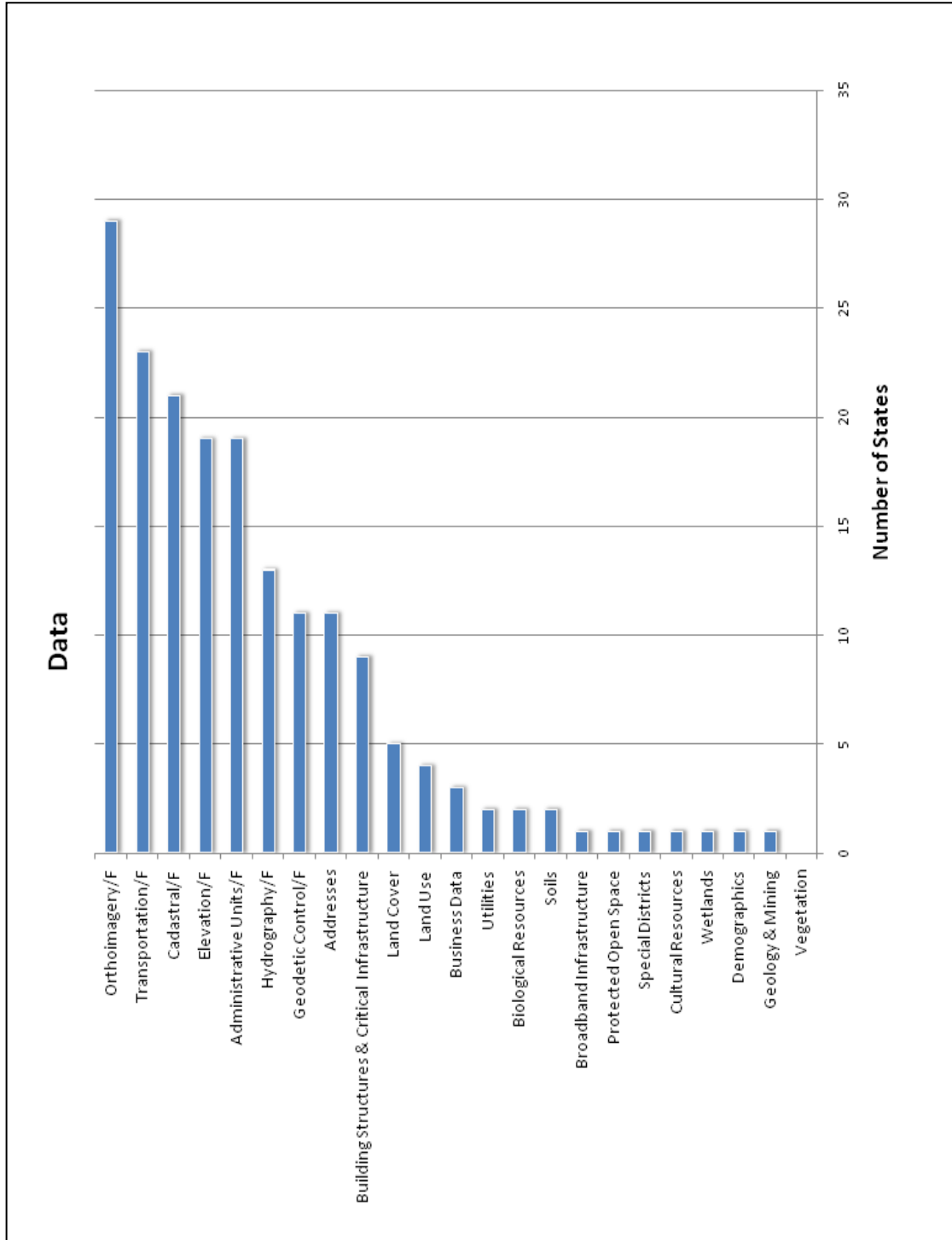
Data. The state strategic and business plans most often prioritized the seven original framework themes.
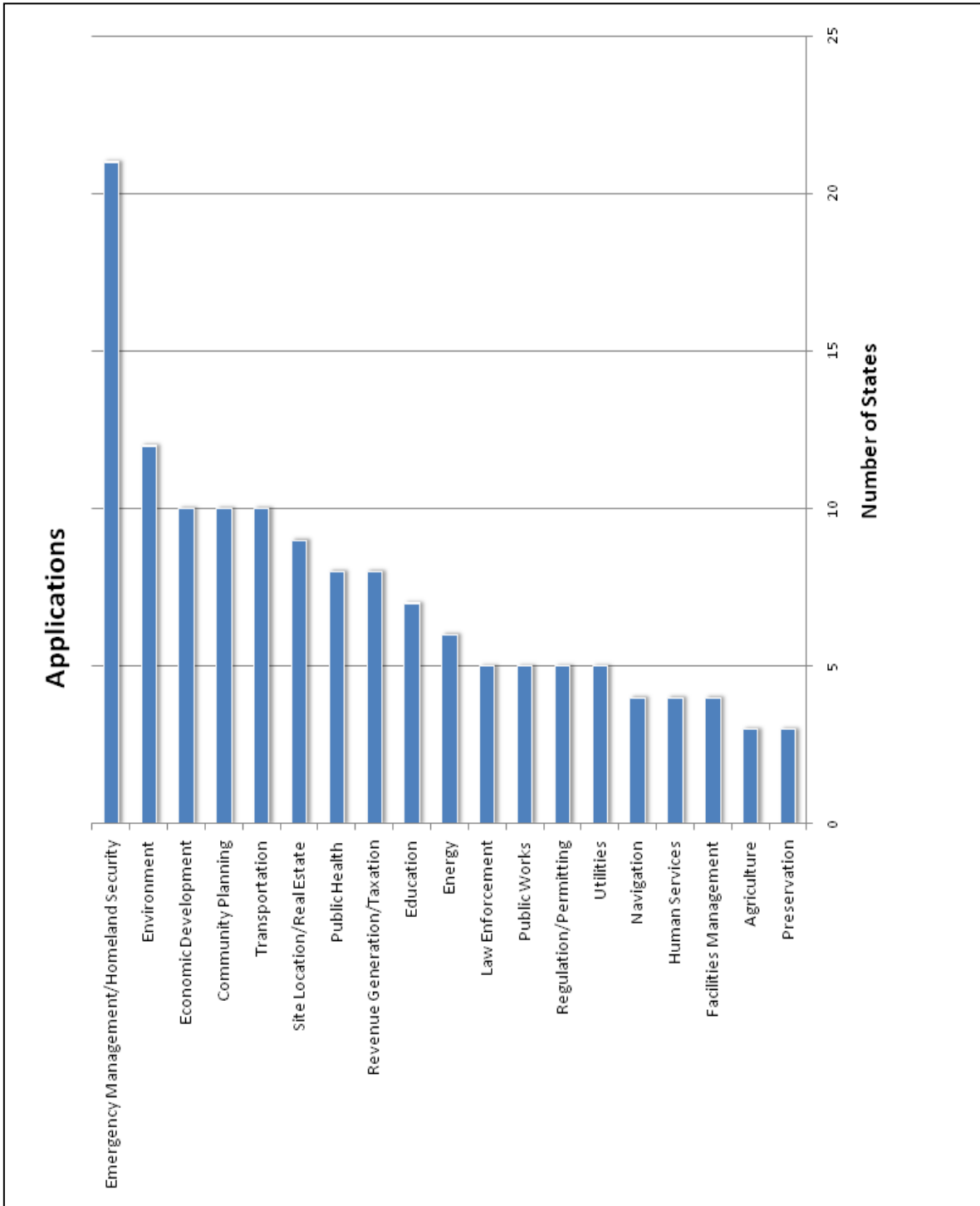
Applications. Emergency Management and Homeland Security applications were identified as a priority in nearly half the state strategic and business plans reviewed for this study.
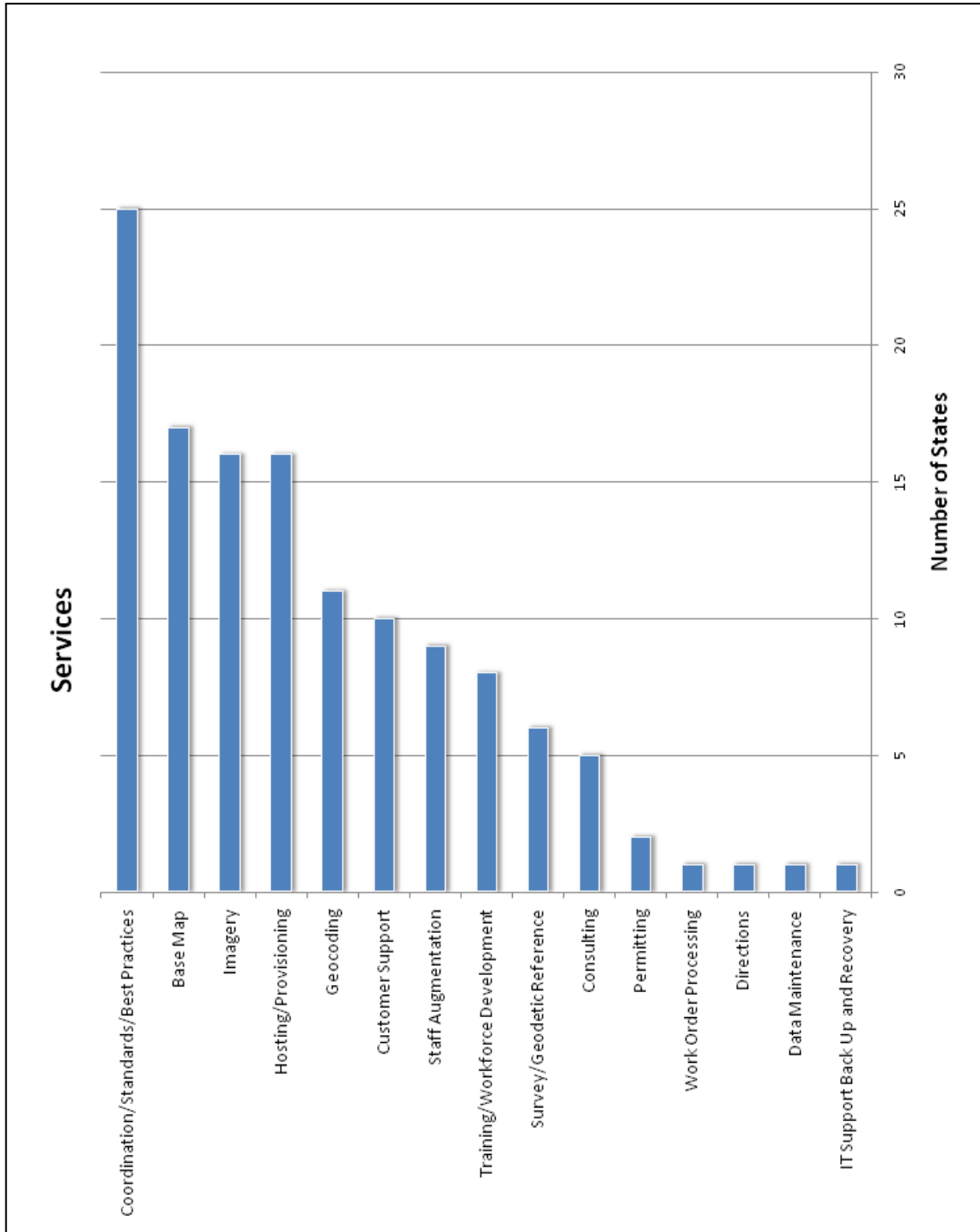
Services. More than half of the plans reviewed identified coordination services as a high priority. This includes the implementation of standards and promotion of "best practices" through the state.

# 4   Grant Recipient Online Survey Results

4.1   INTRODUCTION

A brief online survey was distributed to State GIS Coordinators and other Fifty States grant recipients on June 2, 2010 to gather information on results and outcomes stemming from the grant assistance. Forty-two individuals responded to the survey from forty-two states and territories representing a 100% response rate for the states that received grants between 2006 and 2009. *(See Appendix A on "Survey Respondents & Questions")*

4.2   TANGIBLE RESULTS

The State GIS Coordinators and/or Fifty States grant recipients were asked to indicate their level of agreement with several statements describing the grants.   Results show that the grants were an important factor in achieving results in several areas, and especially as a catalyst for the planning process in general.   The supplementary comments provide further evidence that that the grants helped jump-start the process, focus efforts and convene diverse stakeholder working groups.   While several survey respondents indicated that the grant did not provide adequate funding, the majority of respondents indicated that the funding was enough to support a significant start in the appropriate direction.

The State GIS Coordinators and/or Fifty States grant recipients were asked to indicate their level of agreement with several statements describing the grants.
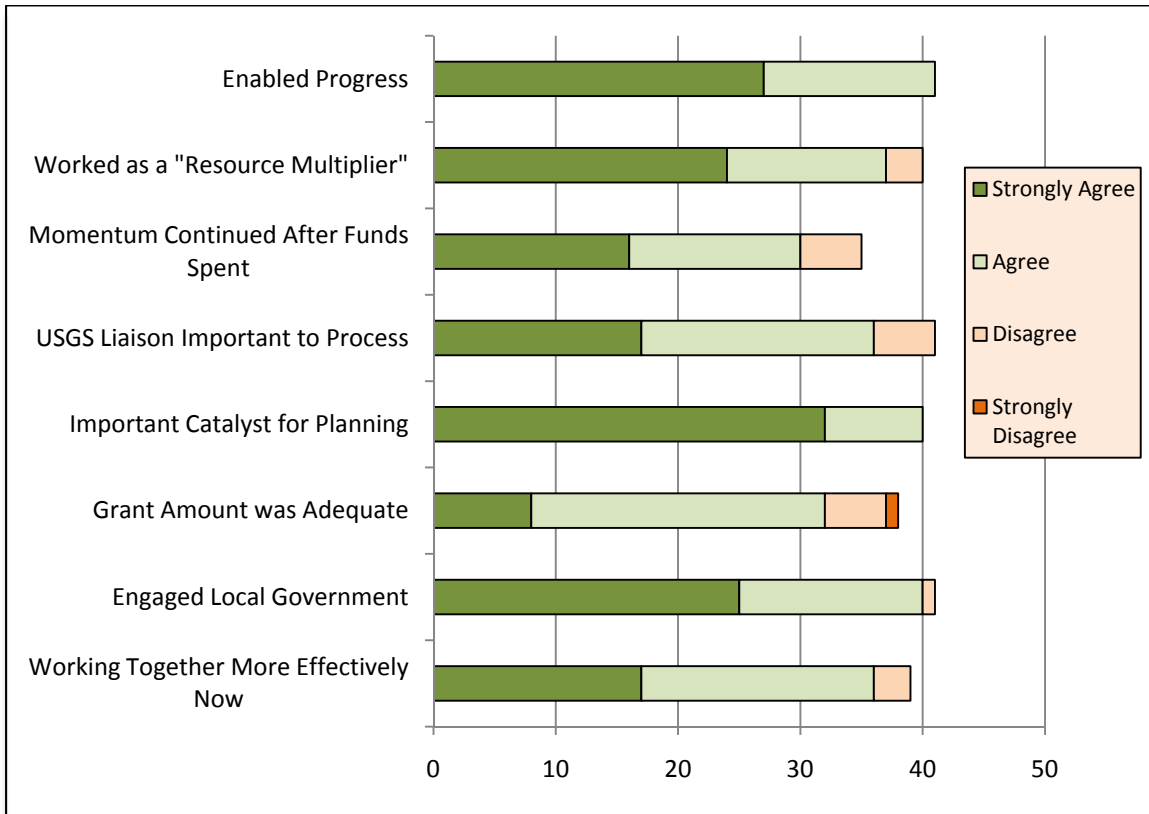
It is evident from the chart above that the survey respondents believed that the grant assistance was an important catalyst for the planning process. It enabled progress, and helped to engage local government, which is essential to building a sustainable NSDI. It is also noteworthy that there was a measurable amount of disagreement (from roughly 10% of the respondents) on a few items, including ongoing momentum, the importance of USGS Geospatial Liaisons, and the adequacy of the grant amount.

As a follow-up question, survey takers were asked whether the grant was an important catalyst for the results shown above. In looking at the most positive results of the planning process, "Greater Credibility with Executives and/or Budget Officials" it

appears that 94% of survey takers who responded positively to this statement also credited the grant with this outcome (29 out of 31 respondents who "agreed" or "strongly agreed" to the statement believed that grant was a very important catalyst for this result). The grant is also credited with the fact that "Stakeholders are Working More Effectively Together" as 93% of survey takers who responded positively to this statement credited the grant with this outcome (31 out of 33 respondents who "agreed" or "strongly agreed" to the statement believed that grant was a very important catalyst for this result). At the state-level, these two items, i.e. stakeholder collaboration and credibility with executives and budget officials, are critical success factors for all of the other desired outcomes.

Which of the following tangible results can be attributed to the State Strategic planning process?
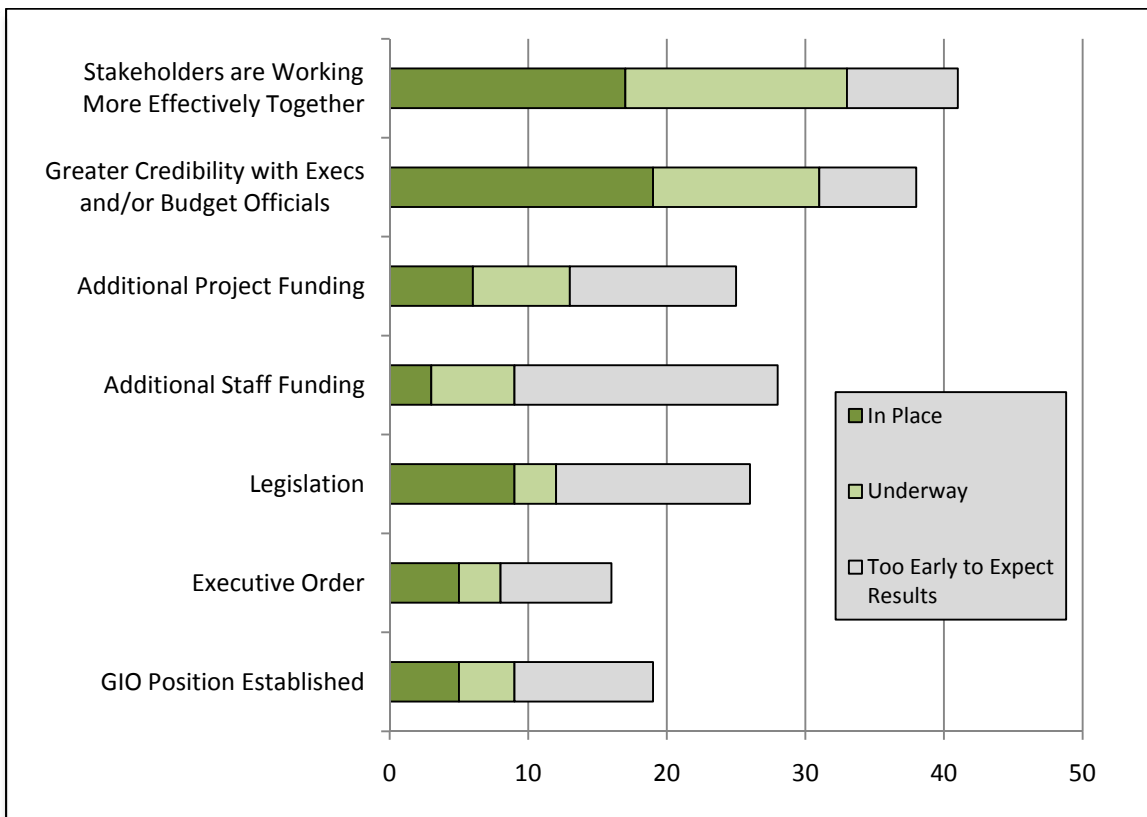
The survey provided a temporal view of progress and tangible results as well.   In filtering results by grant year, it becomes clear that some results happen quickly and others take several years before measurable progress is apparent. In looking at the data, tangible results become more apparent after the planning process is completed. Some results are almost immediate as survey respondents indicated that "Credibility with Executives and Budget Officials," and "Stakeholders Working More Effectively Together" improved dramatically right after the planning process was complete for each "class" of recipients. Following these short-term outcomes, it most often seems to be the case that it can take 3-4 years before other results are identifiable (such as Executive Orders or Additional Project Funding).

Tangible Results "in Place" by Grant Award Year
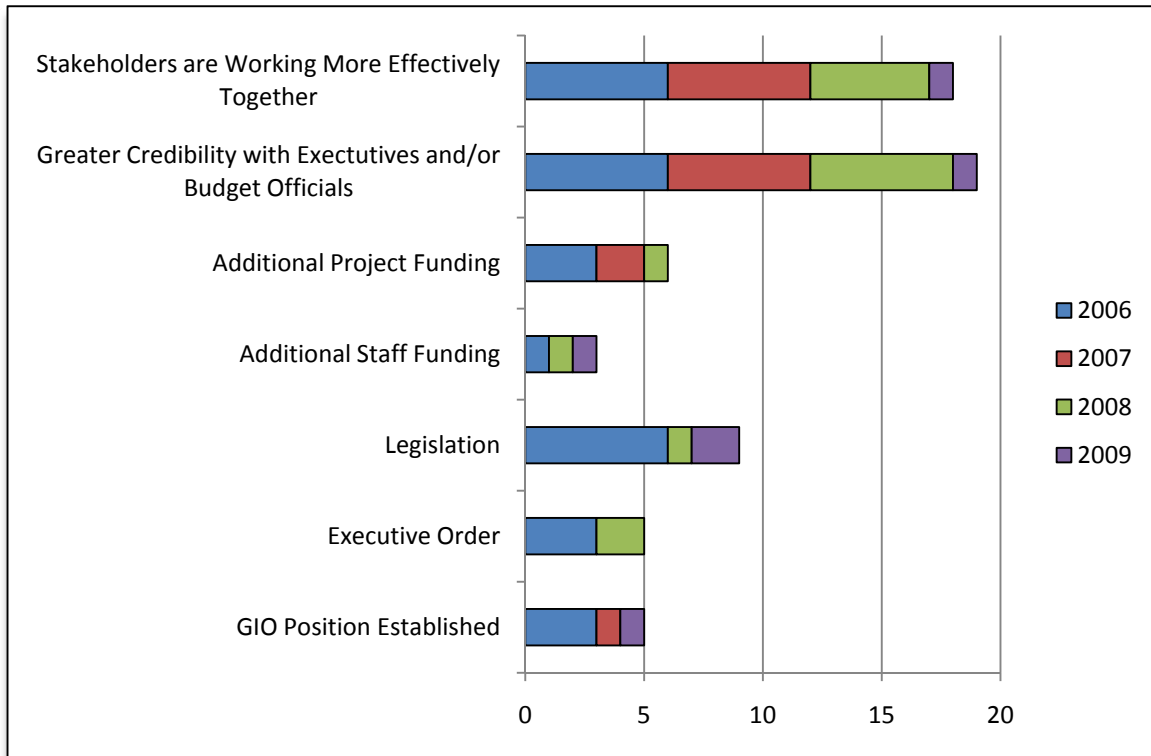
4.3   MOST IMPORTANT OUTCOMES

The State GIS Coordinators and/or Fifty States grant recipients were asked to elaborate on the most important outcome of their project, and to share any anecdotal information that they thought would be valuable. Specific outcomes and/or anecdotes were mentioned by forty (40) of the respondents. Their responses are listed, below, under sub-headers that generally fit the described outcomes and/or anecdotes, as follows:

A. FUNDING SUPPORT

The resulting plan garnered financial support for implementation of geospatial activities.

1) IA: Direct results of our Iowa Geospatial Infrastructure (IGI) plan funded with CAP grant assistance: 1) $650k geocoding project for half of state; 2) $350k for state agency GIS service bureau for two years; 3) coordinated web services; 4) linking existing projects to IGI efforts - LiDAR, orthophotography, transportation, hydrography, geodetic control.

2) OH: Business cases for imagery and parcel program to garner funding for both.

3) NC: The GIS study led to preparation of the state geographic information coordinating council GIS implementation plan which was supported by the legislature and resulted in statewide funding for supporting coordination initiatives. There is much greater appreciation for GIS and its value within the legislature.

B. AWARENESS AND CREDIBILITY

The plan increased awareness and support for geospatial activities among high level executives, legislators, and stakeholders.

1) NH: The most important outcome was producing a document that can be referenced when advocating for GIS activities to people or agencies that are unfamiliar with New Hampshire's GIS organization.

2) UT: Strategic plan lends serious credibility to efforts of our state coordination and clearinghouse efforts. Provided an excellent opportunity to connect at a higher level with partners within the state and develop together a collective vision of what needs and requirements were for geospatial technologies.

3) AR: Provided mechanism for communications with state leadership and stakeholders.

4) WY: The CAP grant gave Wyoming the opportunity to complete a process already begun by the previous oversight group, the Wyoming Geographic Information Advisory Council, and allowed us to hire consultants to help us transform the work already begun into the template documents provided by the FGDC. We ended up with a comprehensive and polished Strategic Plan and Business Plan and were even able to use the funding to hire a professional public relations firm to help us formulate an Education Plan.

5) MA: our efforts gain credibility just by virtue of having federal grant funding - the grant adds a perception of the project having received outside review and approval.

6) TX: Probably the most important outcome was a greater awareness of the need for revision of geospatial governance structures in Texas.

C. **GOVERNANCE AND ORGANIZATION**

As a result of the plan, geospatial governance in the state has been structured and formalized.

1) CO: Provided a framework for fitting subsequent projects into. For example, we are developing a GIS data governance plan, which could be called a business plan in 50 states parlance; or we're creating stewardship plans for specific data sets (e.g., community anchor institutions/structures, NHD, etc.).

2) DC: Expansion of the DC GIS Steering Committee to include more agencies/partners.

3) CA: GIO position established.

4) MN: The visibility of GIS among executive and legislative branch leaders has been remarkable. Most important has been establishment of legislation to create the MN Geospatial Information Office and the GIO position.

D. UNIFIED VISION, GOALS, NEEDS, AND PRIORITIES

The planning process and resulting plan helped create a shared geospatial vision amongst community members.

1) ID: Unified vision and concrete business plan galvanized disparate community

2) MT: While our strategic plan was never specifically used to jump start any project or process it did identify common goals and needs of the enterprise

3) WI: Worthwhile products out of good and common intentions.

4) PA: Engaged the geospatial community, established priorities that a council should work on in its first year, and provided an opportunity to comment on revised versions of a draft House Bill that would form a council.

5) ME: The forums and sharing of priorities for strategic plan, and the ability now to implement using the business plan.

6) OR: Council concluded that significant new investment is needed in program now.

E. COORDINATION, COOPERATION, COLLABORATION, AND SHARING

The planning process and resulting plan set the stage for improved collaboration among the state's geospatial stakeholders.

1) NY: Our agency Director has been able to use the Plan to gain cooperation from other agencies.

2) DE: An important prod to get us working on strategic plans.

3) VT: The most important outcome was that the state established a formal relationship for interagency and departmental spatial planning. This has resulted in real savings to the state thru shared software and hardware purchases etc. Also,

now that the state can speak with a single coordinated voice the local and regional community is able to come to a single POC for spatial issues and discussions.

4) WA: In just the short time these plans have been created they are already being leveraged in: state agency internal GIS planning discussions and activities; on the Governor's efforts to implement information technology (IT) shared services; and in discussions on ways to streamline the delivery of government IT services.

5) HI: The SP and BPs funded by the CAP are allowing HIGICC to be more effective in engaging our stakeholders in activities and discussions relevant to our mission (e.g., conferences, workshops, seminars, etc.). As a result of the 2008 CAP, the Council recruited more non-Board members to take active roles in the governance of the council and in organizing and managing its affairs; the 2010 CAP is enabling the council to bring together stakeholders from across the state and across sectors to tackle common issues related to the imagery framework data layer. This will serve as a template for HIGICC to tackle other framework data themes in the future, and will reaffirm the council's role as a coordinating and enabling body.

6) AZ: It helped us get our act together with our strategic and business plans. We had been talking about it, but the grant allowed us to get it done.

7) VA: The project provided the glue to help advance the collaborative efforts needed in Virginia.

8) MO: Provided funds that could be targeted to support the development of the Geospatial network of professionals and users and the subsequent involvement of these individuals in the planning process

9) IN: 1.) Enabled our geospatial community to be prepared for and react to opportunities, such as Statewide Orthophotography project, NHD, and others. 2.) Grant is one of the only opportunities available to help fund business planning and development.

10) KY: The Commonwealth Geospatial Strategic plan is MISSION CRITICAL for better procuring resources and moving along a path of continued growth and leadership in geospatial.

11) SC: This grant was crucial to help build relationships with local government, which in turn has led to higher degrees of data sharing – government- to-government. Without it we might be perhaps 20% along the way of where we are now.

12) MD: It's important to note that recent success in GIS coordination and progress between state and local governments are a result of many separate but related actions. Key - repeat key- was the Strategic Planning process that actively encouraged and rewarded local participation. This has led to other more tangible successes.

13) MI: Process is providing GIS stakeholders additional opportunities for coordination and collaboration around the State.

14) USVI: Catalyst to cooperation with federal agencies and other states.

15) WV: 2004 CAP - First public map services published for WV. 2006 CAP - Creation of WV Association of Geospatial Professionals (statewide GIS user group). Reactivation of WV GIS Steering Committee and WV GIS Policy Council. Catalyst for state GIS strategic plan that should be completed in 2010. 2008 CAP - High resolution statewide road and structures data integrated into national mapping databases. Creation of statewide geocoding service. 2010 CAP - FGDC Metadata training with Marshall University project lead.

16) FL: We have a plan; it was created by a valid group of GIS stakeholders, and not forced upon us by others.

17) LA: The involvement of many stakeholders that had not participated in other GIS coordination efforts.

18) CT: Great process and documents created which are continually referred to.

19) OK: The response to our stakeholder survey gave us a strong indication of how important GIS coordination and providing various GIS support services is to the GIS community.

20) IL: Statewide GIS coordination was essentially non-existent in Illinois at the time the grant was received. Consequently, the grant brought together a "grass roots" planning group that operated independently and outside of any structured organization. While the "grass roots" group was very productive and collaborative in their planning effort - it has been difficult sustaining the momentum of the planning effort since no structured organization has "ownership" of the strategic plan. The Illinois GIS Association (ILGISA) is currently evaluating their ongoing role with the various sections of the Illinois GIS Strategic Plan.

NE: Seed funding for enhanced collaboration.

5   State Case Studies (AR, HI, ME, SC, and VA)

5.1   ARKANSAS

Geospatial Strategic Business Plan: Arkansas Geographic Information Office (AGIO)

5.1.1   Prior to Project

Arkansas has had a rich history with GIS deployment by state government that dates back to the early 1990's and President Bill Clinton's governorship. Statewide governance is overseen by the Arkansas GIS Board and statewide data activity and coordination emanate out of the Arkansas Geographic Information Office (AGIO). Prior to 2009, the AGIO was located within the Department of Information Systems (DIS), but in 2009 it was re-organized into its own, small, independent agency reporting directly into the Governor's office.

The AGIO currently has five full-time staff, which are supplemented by interns and contract workers who are dedicated to the administration of the streamlined sales tax program which funds their positions. The state's Geographic Information Officer, Shelby Johnson, directs the AGIO. Key activities and initiatives of the AGIO include:

★ Management, maintenance and expansion of the statewide GeoStor database and clearinghouse. The GeoStor is widely used and the AGIO has formally trademarked the name to help build its brand.

★ Administration of the Arkansas Centerline File (ACF) program. For the past 8 years the ACF program has been constructing a statewide road centerline file from the contributions of Arkansas's 75 counties. This database will be completed during the summer of 2010.

★ Administration of the County Assessors Map Program (CAMP) that has been supporting county-based parcel development for the past decade. Initially, the AGIO has provided equipment, software and technical support to counties, but

increasingly it's looking for means of providing financial support. This financial support included a "county parcel grant program" during the first half of 2010. As with ACF, AGIO staff members spend considerable time on-site providing direct technical support to county personnel to help build local capacity.

★ Absent a recurring orthoimagery program, the AGIO has played point on organizing and orchestrating the three statewide flyovers that took place 2001 and 2006. AGIO work involved coordinating funding, performing contracting and quality control and publishing the final results through GeoStor. In addition, the AGIO publishes the 1994-1996 orthoimagery that was created before the agency was formed.

★ The AGIO also plays a key role in ensuring that GIS technology and data are available and effectively used in supporting the governor's priorities. Key issues where GIS has been deployed include economic development, public safety and emergency response and environmental protection and natural resource management. The AGIO's role has included both supporting state agencies and working directly for the governor's office, for example, in responding to emergency situations such as floods or tornados.

Perhaps the most beneficial aspect about Arkansas is that the AGIO has helped to build and foster an extremely strong "data sharing culture." All public agencies and local governments freely share their data and recognize the value of doing so. Unlike some other states, the AGIO has not had to fight "data holdouts" and has been freed to continue promoting the free flow of data across the state.

5.1.2 Project Overview

The AGIO's strategic planning project was squarely focused on their key challenge which is ensuring that there is an adequate and sustainable funding stream for framework data development and maintenance. In spite of the AGIO's strong track record, they do

not have *any funding* that is directed towards data development, maintenance and improvement. Rather, office operations and staff are funded and any data efforts are provided via staff labor (e.g., road data improvements come via AGIO staff working with counties). There are no funds available for updating orthoimagery or tackling new initiatives such as improving elevation data.

Project Vision. The overarching strategic goal of the Geospatial Strategic Plan was simple, direct, and focused on the funding challenge: To provide recurring funding for continual investment in, and improvement of the Arkansas Spatial Data Infrastructure.

5.1.3 Project Activities

Stakeholder Participation. Arkansas performed two distinct and complementary "stakeholder outreach" activities as part of their strategic planning process. First, there was directed outreach to inform "key leaders" that were identified by the AGIO on the geospatial strategic planning process. Key leaders included the heads of industry trade organizations (e.g., the Arkansas Chamber of Commerce, the Arkansas Association of Counties, etc.), the heads of important state agencies (e.g. Arkansas Economic Development Commission, Arkansas Assessment Coordination Department, State Budget Director, etc.) and public officials such as legislators and county judges. In all, 17 key leaders were interviewed and informed of the strategic planning effort. Critically, the AGIO was thinking ahead to the support they would need to carry out the recommendations in the report. The key leader interviews were an investment in building that support.

Second, the AGIO performed a series of five, traditional "stakeholder information gathering" sessions around the state. In all, 165 people participated in these sessions and had an opportunity to hear about the strategic planning effort and offer their perspective, ideas and input to the effort.

Other Project Activities. Other project activities included writing the plan, building cost models for elements of the plan and then vetting the plan with the State GIS Board and other project participants. A key milestone was an hour long presentation at the Arkansas GIS Forum's Bi-annual Conference held during the fall of 2009 in Eureka Springs. At that meeting the recommendations of the plan were presented to the full GIS stakeholder community and it was determined that there was broad consensus that this was an appropriate slate of recommendations and a reasonable approach.

What's in the Plan? The plan highlights that the State GIS Board and AGIO's mission, as chartered in their enabling legislation, is explicitly to: "…coordinate *completion* and *maintenance* of <u>shareable statewide framework data</u>…" The plan then identifies that existing funding is not adequate to complete this mission. The plan goes on to identify the four *priority* framework themes identified by the GIS stakeholder community as needing the most improvement. These are: orthophotography, parcels, road centerlines and political/administrative boundaries.

The plan finishes with a "mini-business plan" for each of these four layers. The mini business plan contains information on:

- ★ Data set background
- ★ What improvements to the data set are required
- ★ The approach to make those improvements
- ★ The costs to make the improvements
- ★ The benefits that the state will realize from investing in the improvements

Overall, the plan proposes creating three new positions within the AGIO that are dedicated to framework data maintenance and calls for an annual funding increase of approximately $1.5 million, with $1.15 million of that being devoted to a recurring orthoimagery program. The plan proposes a one-time $7.5 million investment to complete statewide parcels. This program is envisioned to be carried out over a 5-year

term with the state providing 70% of the funding to counties that agree to pay the 30% balance. Thus, the Arkansas approach was to lay out the real costs of building and sustaining high quality framework data. While these funding levels are ambitious by state government "GIS standards," they are well supported by the expected benefits that are outlined in the plan.

5.1.4   Project Outcomes

The AGIO has remained extremely proactive in putting the proposed plan of action in place and in early June, 2010 a series of high-level advocacy activities was initiated. These included:

★ Briefing the "key leaders" who were interviewed as part of the planning process on the findings and "next steps" during a luncheon meeting on June 8, 2010 sponsored by the GIS Users Forum.

★ Briefing Governor Beebe's Chief of Staff, Morril Harriman, on the plan contents and "next steps" during a one-on-one meeting on June 8, 2010. During the meeting Mr. Harriman relayed that the Governor supported the recommendations of the plan and instructed the AGIO to include the recommended funding as part of their "budget request" (without promising that the request could be funded).

★ Providing a briefing on the plan and testimony before the Legislative Joint Advanced Communications and Information Technology sub-committee on June 9, 2010.

★ Interestingly, in early June, 2010 the Geospatial Strategic Business Plan appeared in the popular press and associated blogs as part of a heated campaign for the statewide Land Commissioner's office. Both candidate recognized the plan and sparred over elements of how it might be implemented, and what its true costs were. In spite of the controversy, the plan itself was never critiqued and one

would conclude that both candidates supported the recommendations within the plan.

Things That Worked Well.

★ Stakeholder outreach and input were highly successful. Arkansans were engaged and participatory and the AGIO was successful in engaging senior leaders from the outset.

★ The project was conducted in partnership with a contractor hired to help conduct the planning process with the AGIO being highly engaged. Ultimately, the combination of the AGIO's sincere involvement tempered by the consultant's "outside perspective", were key to delivering an effective and objective plan.

★ The AGIO had a game plan for what would be done with the plan *after* it was completed. This allowed advocacy to carry out the plan's recommendations to begin immediately following the publication of the plan. In addition, senior leaders were aware that the plan was coming and were expecting it.

Problems That Were Encountered. No major problems were encountered in executing the planning process. The one problem that might be identified was the *timing of this initiative* on the heels of the significant economic downturn facing the country. Ultimately, the main recommendations were for further funding support and this came at a time when money was tighter than ever – in spite of Arkansas's prudent fiscal management which has dampened the overall impact of the economic situation on state government. In the event that full funding is not obtained in FY2011, Arkansas conducts an annual budgeting process, and if necessary the AGIO will seek to fully fund the recommendations in a future fiscal year (e.g., FY2012).

Successful Outcomes. The ultimate outcome and the net results of this effort will become apparent with the completion of the state's FY2011 budgeting process. The hope is that there will be some level of increased funding for framework data within the AGIO budget. Although the project was only formally completed in May, 2010 it is considered a strong success by the AGIO, the State GIS Board and Arkansas GIS Users Forum. The plan was formally adopted by the State GIS Board in March of 2010, and subsequently, the plan was also endorsed by the Arkansas Society of Professional Surveyors in June, 2010 and an endorsement from the County Assessors Association is pending. The AGIO is also actively seeking plan endorsements from the State Forestry Association and the State Realtors Association.

5.2   HAWAII

Geographic Information System Strategic Plan: Hawaii Geographic Information Coordinating Council (HIGICC)

5.2.1   Prior to Project

Geospatial technology has been in use throughout the State of Hawaii for many years. In 1999 the Hawaii Geographic Information Coordinating Council was formed as a 501.c.3 not-for-profit organization to provide coordination of geospatial activities among the wide range of GIS users in the state. According to the HIGICC website, "HIGICC is a private non-profit organization of professionals and students from the federal, state, county, education, and private sectors of Hawaii's GIS community. Our goal is to provide coordination of GIS activities among a wide range of GIS users in order to avoid duplication of effort, promote data sharing, and maintain data standards throughout the state".

Numerous state and all four major County government agencies use the technology and generate a rich collection of geospatial data which is used in a variety of map making, analysis and web viewing applications. One of the biggest challenges for HIGICC, in part

due to the disparate geography of the islands and the unofficial nature of the Council, has been coordination and communication about geospatial activities.

5.2.2   Project Overview

In 2008, HIGICC was successful in receiving a grant from FGDC CAP grant program to develop the future goals and objectives of the community in the form of a Strategic Plan. The effort was overseen by a Steering Committee comprised of members of the HIGICC board and the process was facilitated and documented by Applied Geographics, Inc, of Boston, Massachusetts. In 2010, the Council was successful in obtaining a second CAP grant from the FGDC to support the development of a statewide geospatial business plan.

The project vision was to assess this mission statement and the performance of HIGICC over the past decade and make recommendations for improvements.

Key Project Goals. Key project goals were to:

★ Develop actionable and achievable plans that could focus the energies of the Hawaii's geospatial stakeholders and members

★ Obtain "buy in" from stakeholders

★ Raise awareness of HIGICC

★ Reach additional sectors of the community throughout the state

HIGICC Mission Statement. HIGICC strives to bring together and continue to build the geographic community into a cohesive, recognized coordinating body that facilitates the use, development, sharing, and management of geographic data and communicates the value of geographic information to citizens and decision-makers. In the State of Hawaii, GIS is recognized and effectively used as an invaluable tool by the government, business and the citizens for understanding and managing our *aina* (environment). The Hawaii

GICC is a shared mechanism for the diverse community to identify, explore, and solve problems using geospatial technology and information.

5.2.3   Project Activities

Geospatial Council Steering Committee Meetings. Six conference calls/meetings were held with the steering committee throughout the project duration. Participants included members of the council representing all of the major stakeholder groups in Hawaii. These sessions also worked to further define the key strategic goals, vision and to identify the programmatic goals outlined in this document.

Stakeholder Sessions. Five informational gathering sessions were held around the state as group visioning sessions to identify and clarify goals and to define the needs of all of the stakeholder groups in Hawaii. One session was held in each of the three counties of Kauai, Maui, and Hawaii, and two sessions were held on Oahu County. Invitations were sent out to nearly four hundred individuals that were envisioned as potential stakeholders of the effort. These groups included federal, state, and county government staff, utility companies, non-profit entities, the University and K-12 educational sector, and private companies.

Individual Interviews. In addition to the stakeholder workshops individual/small group interviews were also held with a number of people and agencies to gather additional input. These interviews included meetings with the USGS Hawaii and Pacific Basin Islands NSDI Partnership Office, State of Hawaii, Office of Planning, Counties of Maui, Kauai, Oahu, the City and County of Hawaii, Pacific Disaster Center, and the University of Hawaii.

Online Web Survey & Questionnaire. An on-line questionnaire was developed to reach out to people who did not attend the sessions and to ask more detailed questions of those who did attend the sessions. Over 110 individuals responded to the survey. The

survey results are incorporated into the requirements section of this document, but it is important to note that the survey was not a scientific survey. The survey was a voluntary effort that provided a data point for decisions made, was considered representative, but may not be statistically accurate.

5.2.4   Project Outcomes

Things that Worked Well. The project achieved great stakeholder participation. The information sessions held in each county were well attended and provided a valuable forum for sharing ideas and gathering feedback. The online survey collected responses from over 100 members of the stakeholder community. Drafts of the plan were posted on a Wiki site where individuals were free to provide detailed input and changes directly to the documents.

★ HIGICC listened well during the planning process.

★ Stakeholder input was considered carefully and shaped the implementation priorities.

★ HIGICC acted on the plans almost immediately following completion of the documents.

Problems Encountered.
★ It was difficult to maintain project momentum after the information gathering phase was completed.

★ The volunteer council had many other demands on their time which ultimately impacted the ability to comply with the project schedule and intensive writing demands.

★ With diverse group of stakeholders, it was difficult to prioritize the focus and direction of the business plan.

★ The State CIO was not involved in the planning process; in hindsight, it would have been valuable to gain support from this office early on.

Successful Outcomes. Completion of the Strategic Plan and subsequent business plan components was a major success for the Council. In the first 10 years of the HIGICC there has never been an explicit public agenda for action. Agendas for action have anecdotally been based on: (1) the interests of the incoming officers, particularly the President; (2) any urgent issues that arose (3) GIS Day activities; or (4) conference planning and implementation, in those years in which a conference (GISMAP or PacGeo) was held. This plan set forth the primary agenda of action and activities for the Council for the next three to five years.

According to the June 2010 online survey of Fifty States grant recipients, the Strategic Plan and Business Plan are allowing HIGICC to be more effective, engaging stakeholders in activities and discussions relevant to the Council's mission. As a result of the 2008 grant:

★ The Council recruited more non-Board members to take active roles in the governance of the council and to help organize and manage activities

★ Membership increased across all sectors, including education (both K-12 and higher education), one of the identified underserved sectors

★ Recognition of HIGICC's role in the geospatial community was evidenced by an almost doubling of attendance at its annual meeting compared to last year

5.3   MAINE

An Integrated Land Records Information System (ILRIS) for the State of Maine
Maine GeoLibrary, Maine Office of GIS

5.3.1   Prior to Project

Maine was not starting from scratch when they received their Fifty States Strategic and

Business Planning (CAP Category 3) grant from FGDC in 2007. They were building on a foundation going back at least 20 years. The state has a legislatively established GIS council, known as the Maine Library of Geographic Information Board (a.k.a. GeoLibrary). In advance of the grant application, the GeoLibrary had identified the need to provide access to information about property parcels and their context with adjoining lands, and had started on the conceptualization process. In addition, the GeoLibrary and the Maine Office of GIS (MEGIS) contributed their own resources to get the process underway.

The State GIS Manager, Michael Smith, directs the Maine Office of GIS (MEGIS), which is within the Office of Information Technology. In the context of NSDI, a number of milestones are recognized by Mr. Smith as being valuable to statewide coordination and infrastructure-building efforts, including:

★ Data Catalog deployment in 1998, making it easier to get data, statewide.

★ USGS digital base layers statewide availability in 1998, providing consistent base map data.

★ USGS Black & White Digital Ortho Quads (DOQs) statewide availability in 1999, providing consistent orthoimagery for multiple purposes.

★ Enterprise GIS database deployment in 1999, providing easier access to Maine-specific data.

★ USGS Digital Raster Graphics (DRGs) statewide availability in 2000, providing widespread access to digital topographic maps.

★ Maine Library of Geographic Information (GeoLibrary) created by law in 2002, promoting data custodianship and common access to public geographic

information to all levels of government and to the public.

★ Enterprise License Agreement (ELA) with ESRI in 2008, providing access to a GIS software pool across state agencies.

5.3.2   Project Overview

For this grant-supported project, Maine's emphasis was distinctly weighted toward a GIS-based integrated land records information system (ILRIS), focused on developing an accessible statewide repository of property parcel data. A specific outcome of the project was a multi-part plan for "An Integrated Land records Information System for the State of Maine." This plan comprises content that spans both strategic and business planning elements, focusing in on specific requirements for a statewide property parcel data collection.

Project Vision/Mission Statement. In the Maine context, the vision and mission statement is referred to as the "Conceptual Core" of the intended strategic direction and desired outcome. From the plan document:

The Maine GeoLibrary seeks to develop a system of unified property records across the state. The basic principles of this initiative can be summarized in three key assumptions about what a final system should include and about how these records should be aggregated and maintained. These include:

★ *Creation of a statewide parcel composite*

★ *Development of a perpetual maintenance system and network to ensure these records are kept current*

★ *Adding value to these data through technical association of individual records with other data sources through extended attribute sets.*

Stakeholder Participation. In Maine, there is a split responsibility for land records at the local level, with tax records and parcel geometry managed by towns, while deeds and transfers are managed by the counties. For the state to achieve its goals for statewide property parcel data, outreach to local government was essential as part of this process. Forums, surveys, and written correspondence were used for outreach to stakeholders, statewide. Participation included local, county, and state governments, private sector, private citizens, and universities.

5.3.3   Project Activities

The Maine ILRIS multi-part plan document was *"developed as the result of input from multiple forums, meetings, and discussions with geographic users and potential stakeholders from all levels of government and the private sector, both within and outside Maine. "* MEGIS hired a contractor to organize six (6) forums, to utilize both online and paper surveys to collect input from stakeholders, and to draft the plan document.

The forums were held in far-reaching locations around the state, and were attended by a wide array of stakeholders. To ensure broad participation, the forums were advertized in theme-specific media not typically dedicated to GIS, such as the publications of municipal professional societies.

Interaction with FGDC during the course of the project was minimal. This was a nice thing in the opinion of the state, because federal oversight did not dictate the direction of the project. Nonetheless, the effort remained true to FGDC objectives to reach out to diverse stakeholders and approach the project from a statewide perspective.

5.3.4   Project Outcomes

The project was considered successful by the State GIS Manager and GeoLibrary, and has moved on to implementation of the goals established during the planning process.

It directly enabled Maine to line-up support for a pilot project in Hancock County, which includes Bar Harbor, a world renowned tourist destination. These implementation efforts will contribute to national objectives related to the cadastral data layer of the NSDI.

Statewide coordination has already changed as a result of this project. For example, Maine has adopted plan recommendations for theme-specific workgroups for coordination (i.e. Parcels/Cadastral Data, LiDAR and Ortho Imagery), and generated successful grant proposals to help implement the ILRIS specification.

Things That Worked Well.

★ MEGIS held wide-ranging public forums throughout the state, and some targeted forums just to certain business sectors.

★ Public feedback periods were provided by posting draft plans on the web and allowing public review.

★ A contractor was hired to help conduct the planning process.

★ The contractor was guided by an active representative stakeholder group.

★ Most importantly – the plan will not just be a report filed on a shelf, as evidenced by current implementation efforts.

Problems That Were Encountered.

★ There was a change of state GIS coordinators right at the beginning of the planning project, with a learning curve for the new person.

★ Maintaining focus over long periods of time with volunteer steering group was difficult.

★ There was a long period between drafts to review, and a feeling of starting over at different junctures along the way.

Successful Results.

★ An updated strategic and business plan for Maine was produced, aligned with Fifty States objectives, finished in May 2009 and available at www.maine.gov/geolib.

★ The strategic plan content and business plan content were combined into the multi-part document titled, *"An Integrated Land Records Information System (ILRIS) for the State of Maine,"* including four main parts, as follows:

- Conceptual Framework
- Functional Specification
- Promotional Plan
- Research and Findings

★ Workgroups were realigned for theme-specific coordination to meet strategic plan needs (i.e. Parcels/Cadastral Data, LiDAR and Ortho Imagery).

★ MEGIS successfully lined-up support for a pilot project to implement the ILRIS plan with a prototype integration model.

★ In 2010, MEGIS received a substantial grant ($200k) to expand the pilot ILRIS cadastral efforts into other counties.

5.4 SOUTH CAROLINA

South Carolina Geographic Information Systems (SCGIS) State Outreach and Strategic Plan, South Carolina Geographic Information Council (SCGIC)

5.4.1 Prior to Project

South Carolina's history in the development and use of Geographic Information Systems (GIS) spans a period of more than 30 years. There is a well-developed GIS community of

stakeholders that includes distinguished public and private sector participants, and leading academicians.

Key GIS milestones in South Carolina that preceded this project include the following selected items:

* ★ 1976: GIS taught at University of South Carolina
* ★ 1978: State Mapping Advisory Committee (SMAC) established
* ★ 1983: City of Greenville implemented GIS
* ★ 1997: SC Department of Natural Resources (DNR) established a Data Clearinghouse
* ★ 1997: Standing Committee on Geographic Information (SCGI) formed
* ★ 1999: Needs Assessment on statewide GIS undertaken
* ★ 2001: Strategic Plan for Statewide GIS Technology Coordination in South Carolina developed
* ★ 2006: South Carolina Geographic Information Council (SCGIC) formed
* ★ 2007: State GIS Coordinator hired
* ★ 2008: FGDC Cooperative Agreements Program (CAP) assistance received to support a new strategic plan and statewide outreach

5.4.2 Project Overview

A key project goal was to proactively overcome any perception that the planning process was insular to state agencies. Emphasis was placed on statewide outreach, especially to local government, to help determine shared priorities across the entire state for GIS programs and initiatives. The project was seen as a consensus-building exercise to help coordinate and prioritize data building efforts across jurisdictional boundaries, and to support decision-making. It was also seen as an opportunity to improve communications with leaders across the state, by developing talking points that would resonate with non-GIS people.

Project Vision/Mission Statement. The general consensus amongst the GIS stakeholders who participated in the planning process was that the mission statement from the 2001 plan, while generally relevant, was too generic to rally action-oriented support. A new mission statement was developed and adopted as follows:

Lead the nation in collaboration and utilization of geospatial resources which achieve statewide goals to positively impact the lives of South Carolinians.

Stakeholder Participation. In South Carolina, the planning effort was led by the State GIS Coordinator, but a conscientious effort was made to reach out to diverse GIS stakeholders across the state. There were 96 people from 26 counties that attended the five Regional Stakeholder Outreach Workshops in the autumn of 2008. Demographically, over 50% came from local government, with the remainder coming from the private sector, academia, and other levels of government (state and federal).

In addition to workshop outreach, 38 people from 11 counties responded to an online survey that was conducted during November 2008. A report on the survey results was produced during late January – early February 2009.The demographic breakdown of survey respondents was very much like the workshop attendees. While not a huge number of respondents, the participating counties represent 64% of the state's land area, and 71% of its population.

5.4.3   Project Activities

The planning process took place during the second half of 2008 and the first half of 2009. Activities included meetings, research, presentations, regional workshops, on-line survey, one-on-one interviews, public comment on preliminary findings and recommendations, and iterations on draft versions of the plan document. Some specific examples include the following activities:

- ★ Kick-off Teleconference

- ★ SCGIC Meeting in Columbia

- ★ Regional Stakeholder Outreach Workshops (5)

- ★ Interviews (8)

- ★ Report on Preliminary Findings

- ★ Public Review and Comment on Preliminary Findings

- ★ Online Survey Questionnaire

- ★ Background Research and Document Review

- ★ Attendance and Strategic Planning Discussion at SCARC Conference in Columbia

- ★ Public Review of Goals and Vision

- ★ Review of Goals and Vision by SCGIS Council

- ★ Final Draft of Strategic Plan reviewed by SCGIS Tech Committee

- ★ Presentation to SCGIS Council

5.4.4   Project Outcomes

According to Tim De Troye, the South Carolina State GIS Coordinator, "This grant was crucial to help build relationships with local government, which in turn has led to higher degrees of data sharing – government-to-government. Without it we might be perhaps 20% along the way of where we are now." (From 2010 Fifty States Survey of State GIS Coordinators)

Things That Worked Well.

- ★ The Regional Workshops and the input and discussion from these outreach sessions were very successful.

- ★ A seasoned contractor was hired to help conduct the planning process and facilitate the workshops.

- ★ The one-on-one interviews provided in-depth insights to what was working in the state, what might be done better, and what issues existed.

Problems That Were Encountered.

★ Variations in policies at the local level in relation to data sharing and/or selling practices have bearing on cross-jurisdictional initiatives to build regional or statewide datasets.

★ At the local level, some areas have GIS capabilities, and some do not.

★ Poor financial conditions across the state tempered expectations of what could realistically be achieved.

Successful Results. The strategic planning process enhanced and augmented ongoing communication and outreach efforts led by the State GIS Coordinator with the support of SCGIC. It spurred follow-on activities by interested parties, including a local university that undertook an effort to gather GIS success stories from around the state. Most importantly, based on input from the planning process and the specific recommendations of the State Outreach and Strategic Plan, five pilot projects were launched, as follows:

★ Multi-county pilot project to make street centerlines fully routable for all roads, to serve as a model for statewide implementation; this is a collaborative effort between SC Department of Transportation (SCDOT) and local counties.

★ Multi-county property parcel data pilot, to aggregate and integrate property parcel data across several adjoining counties, as a model for regional and statewide aggregation.

★ Statewide orthoimagery Web service, to provide access to existing aerial ortho-image data, which is being collected at the local level with state and federal support; this effort is led by the SC Budget and Control Board.

★ Address points pilot project, to develop a statewide address points layer with voluntary participation from local government organizations and value-added by SC Department of Health and Environmental Control (DHEC); an Information Flyer on Address Points was produced by the State GIS Coordinator.

★ Statewide geocoding service, also in collaboration with DHEC, to leverage shared address points with accurate locations by providing a geocoding service to state and local data partners; this provides value-added by the state back to local government and other data partners.

5.5   COMMONWEALTH OF VIRGINIA

GIS Strategic Plan: 2010-2015, Virginia Geographic Information Network (VGIN)

5.5.1   Prior to Project

For over a decade, the Commonwealth of Virginia has promoted the development of geographic information to support a variety of applications including environmental protection, healthcare, land use, economic development, transportation, natural and historic resources, public safety and emergency management. To better coordinate these activities and promote sharing of geographic information, the Virginia Geographic Information Network (VGIN) was established in 1997. VGIN is part of the Integrated Services Program (ISP) within the state's IT agency, the "Virginia Information Technologies Agency".

VGIN operates in tandem with the Public Safety Communications group and is closely aligned with the states information technology and 911 business needs. VGIN's activities are primarily funded by the Wireless Services Board (WSB) which supports the Commonwealth's orthophotography and road centerline data programs.

VGIN provides application services including geospatial project management, geospatial application hosting, geospatial needs assessment, and consulting. VGIN also provides data services to the Commonwealth including orthophotography and road centerline basemapping, enterprise metadata services, web map services, and other enterprise data coordination.

VGIN's **services** are approximately divided as such:

★ Application Services: Geospatial Application Services (5% of current work)

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

★ Geospatial Coordination: Enterprise Geospatial Coordination (30% of current work)

★ Policy: Enterprise Geospatial Policy such as model and standards development (5% of current work).

VGIN's **resources** include:

★ Orthophotography: Since 2002, VGIN has provided high resolution statewide aerial photography to promote economies of scale and data sharing

★ Road Centerline: VGIN provides a consistent and seamless statewide digital dataset of all roads, sourced from 911/local data and the state DOT. Coordination of this effort with the DOT is progressing and is a high priority for VGIN.

★ Metadata Portal: Online portal for discovering and sharing geospatial data and metadata for the Commonwealth. This application is open to government and public users.

★ Statewide Coordinator: The presence of a statewide coordinating office allows Virginia to coordinate activities amongst the diverse agencies and stakeholders.

★ VGIN Staff: VGIN has full-time geospatial professionals who provide outstanding services to the Commonwealth.

5.5.2   Project Overview

In 2009, the Commonwealth received a Fifty States CAP Grant to support, along with funding from VGIN, the development of a statewide geospatial strategic plan. Touchstone Consulting Group assisted with the strategic planning process and the creation of the Strategic Plan.

During the strategic planning process, six strategic initiatives were identified with three overarching organizational goals. The broader goals will guide VGIN toward its vision of "Using geographic knowledge to create a better Virginia."

Mission Statement. "Using Geographic Knowledge to Create a Better Virginia."

<u>Key Goals:</u>

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.

5.5.3   Project Activities

The strategic planning process in Virginia was a joint effort of VGIN and its diverse stakeholder community. 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.

Planning Methods. VGIN collected and analyzed information from this diverse community through a variety of methods including:

★ Meetings with VGIN staff

★ One-on-one stakeholder interviews

★ Online stakeholder surveys

★ Regional town hall meetings and webinars around the Commonwealth

This approach provided the following key components of to 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.

Meetings with VGIN Staff. VGIN staff supported the strategic planning process by validating the themes voiced by the geospatial community.

One-On-One Stakeholder Interviews. In general, stakeholders expressed a high level of satisfaction with the geospatial resources in the Commonwealth. Suggestions for improvements focused on better coordination of often disparate groups to avoid duplication of effort.

The Online Survey. To help identify priorities for the Commonwealth and direct tasks for VGIN, the stakeholder community was invited to participate in a 16-question online survey focused on attendance, GIS use in the Commonwealth, geospatial needs, and feedback to VGIN on how to improve services to the Commonwealth. In total, 167 individuals participated in the survey from local, state, and federal agencies, Planning

District Commissions, NGOs, academia, the private sector, utility companies, and others. A majority of respondents were from local and state government.

Town Hall Meetings. These meetings were held at four locations (Culpeper, Richmond, Roanoke, Tidewater) across the Commonwealth and were the most valued component of the planning process. The meetings aimed to validate the themes and patterns voiced during the survey, articulate a long-term geospatial vision for the Commonwealth, and align VGIN's day-to-day work, mandate, and stakeholder expectations.

5.5.4   Project Outcomes

Things That Went Well. According to the state coordinator, the Town Hall meetings were the most valued component to the process. In the Town Hall forum, stakeholders discussed topics freely and provided the feedback necessary to help focus the plan.

Problems Encountered.

★ Just before the project commenced, the Commonwealth lost two champions for statewide geospatial coordination, the CIO and Secretary of Technology.

★ The process for getting the contract approved took much longer than anticipated and slowed down the momentum set in place by the grant award.

★ There was almost no project participation by the general public.

Implementation Plan. The strategic planning process and stakeholder feedback helped VGIN to prioritize the strategic initiatives. While all of the initiatives would provide value to the geospatial community in the Commonwealth, the following initiatives were deemed the highest priority and the plan recommended taking action in these areas first:

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

2. Develop and maintain geospatial standards and best practices.

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

Successful Outcomes. Although the project was just completed early this year (endorsed by the VGIN Advisory Board on January 6, 2010), the plan is considered a success by the community and the Commonwealth's geospatial coordinator. Part of this success may be attributed to the fact that the Fifty States CAP program had been in place for several years and the Commonwealth was able to learn from prior "classes" and take into account some of the key "lessons learned" during other strategic planning projects. For example, during the planning process the Commonwealth made stakeholder involvement a high priority to ensure that the plan represented the diverse needs the entire community. This required that the stakeholder community be made aware of the plan and the need for their contribution long before the project was ever initiated.

The completion of the strategic plan has helped to focus and formalize efforts toward statewide "Coordination, Communication and Creative Services" among stakeholders and will provide valuable input to the Commonwealth's business plan update.

6 GIS Inventory & Geospatial Maturity Assessment Initiatives

6.1 Characterization of the Geospatial Maturity Assessment (GMA)

The Geospatial Maturity Assessment (GMA) is an objective baseline assessment methodology that will be used to routinely monitor and validate a state's geospatial business performance capabilities. Currently, no comprehensive statewide Geospatial Maturity Assessment model exists, so FGDC is providing funding assistance to support the development of a GMA.   Without it, decision-makers in each state (e.g., state Chief Information Officers (CIOs), Geographic Information Officers (GIOs) or equivalents, Governors, legislators, etc.) have little sense of the extent and value of geospatial assets and capabilities within their state. These assets and capabilities include, but are not limited to, the following components:

★ Geospatial Coordination and Collaboration

★ Geospatial Data Development (documentation and maintenance)

★ Geospatial Asset Discovery and Access (sharing and distribution)

★ Statewide Partnership Programs

★ Participation in Pertinent National Partnership Programs and Initiatives

★ Geospatial Policies, Standards, Guidelines and Best Practices

★ Geospatial Training, Education and Professional Networking Activities

★ Governance, policy, management and planning

★ Enterprise Integration and Design

★ Societal Impacts

The GMA will help solve these deficiencies by serving the following purposes:

★ Become the 3rd generation of the NSGIC State Summaries starting in 2010

★ Inform other national assessments such as the PEW Grading the States Report Card, ASCE Infrastructure Report Card, the Digital Government Survey and COGO

Geospatial Report Card, through access to GMA results posted by individual states and/or the national compilation

★ Create policy components necessary for state-level strategic and business planning activities, score cards (or other metrics) and other actionable items

★ Reveal cross-agency and enterprise geospatial investment opportunities to Governors, Legislators and other decision-makers; these items can be reviewed independently, placed within the State Strategic Plan or otherwise leveraged

★ Enable GMA components to be assembled into or from more detailed Report Cards; alternatively, county GMAs, if and when they begin to surface, may feed pertinent assessment categories in the state GMA

★ Offer a framework for enhancing awareness and assessment of local to state to federal capabilities

★ The GMA results can help guide the Federal Geographic Data Committee's visioning and any resulting programs, such as the Fifty States Initiative

NSGIC will not conduct a 2010 State Summary due to the impending release of the GMA which will be supported for the foreseeable future.

6.2 GIS Inventory: System Utilization by State and Local Governments

The GIS Inventory, formerly known as "Ramona", is a data-rich inventory managed by NSGIC of data sources across all of the states, Washington DC, Puerto Rico and the Virgin Islands. This tool is made available to each state so they can better understand their user community and has been in use in various forms for over 5 years. It is administered by the states, but includes individual inputs from private, municipal, county, state, and other users. In current practice, it is mostly voluntary to use it, and there is a great deal of variability across the states, due to their rate of adoption of the tool, the method in which it is used, and the incentives employed (if any).

The variety of participants from different stakeholder groups and the varying usage patterns have resulted in a non-uniform distribution of responses, with no single characteristic approach from state-to-state. For example, in some states, participants in the GIS Inventory may have been with state agencies, focusing on statewide data sets. In other cases, the participants might have included counties that inventories geospatial data files within their respective jurisdictions. This is partly to be expected given the nation-wide scope, where it takes time to achieve normalization, consistency, and reliability of results. Nonetheless, the results are already substantive and measurable, and a new version of the GIS Inventory interface is due in September 2010.

Utilization could be expanded and enhanced with incentives and funding assistance. The GIS Inventory provides valuable information for assessing Geospatial Platforms across levels of government and other stakeholder groups, and insights into the feasibility of federated scenarios based on the availability of and access to authoritative sources of geospatial data.

The list of NSGIC "framework data" includes 25 layers that are closely related to the list of FGDC Framework themes. The NSGIC framework layers used in the GIS Inventory are listed below [**NOTE:** *An asterisk* **(*)** *indicates that the layer is one of the 7 FGDC Framework themes]:*

- ★ **Boundaries(*)**
  - o American Indian Reservation
  - o Cities/Towns/Villages
  - o Civil Township or Equivalent
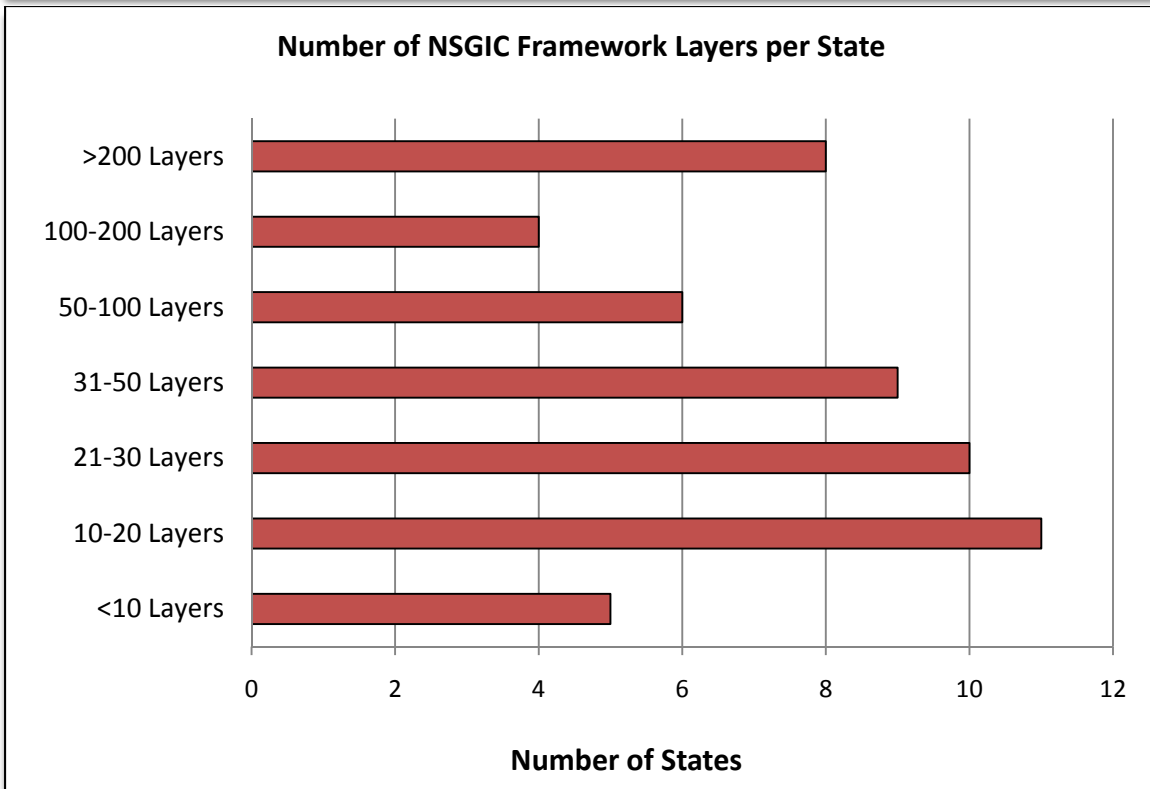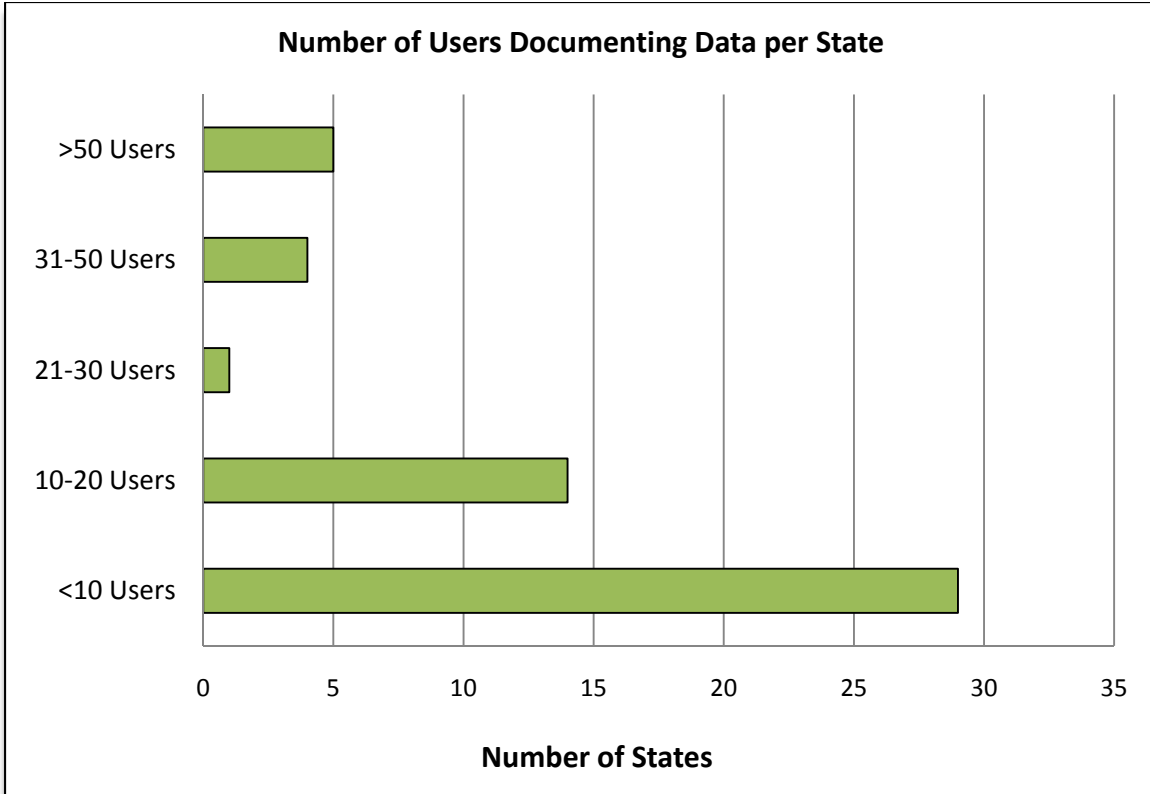 - o Counties/Parishes
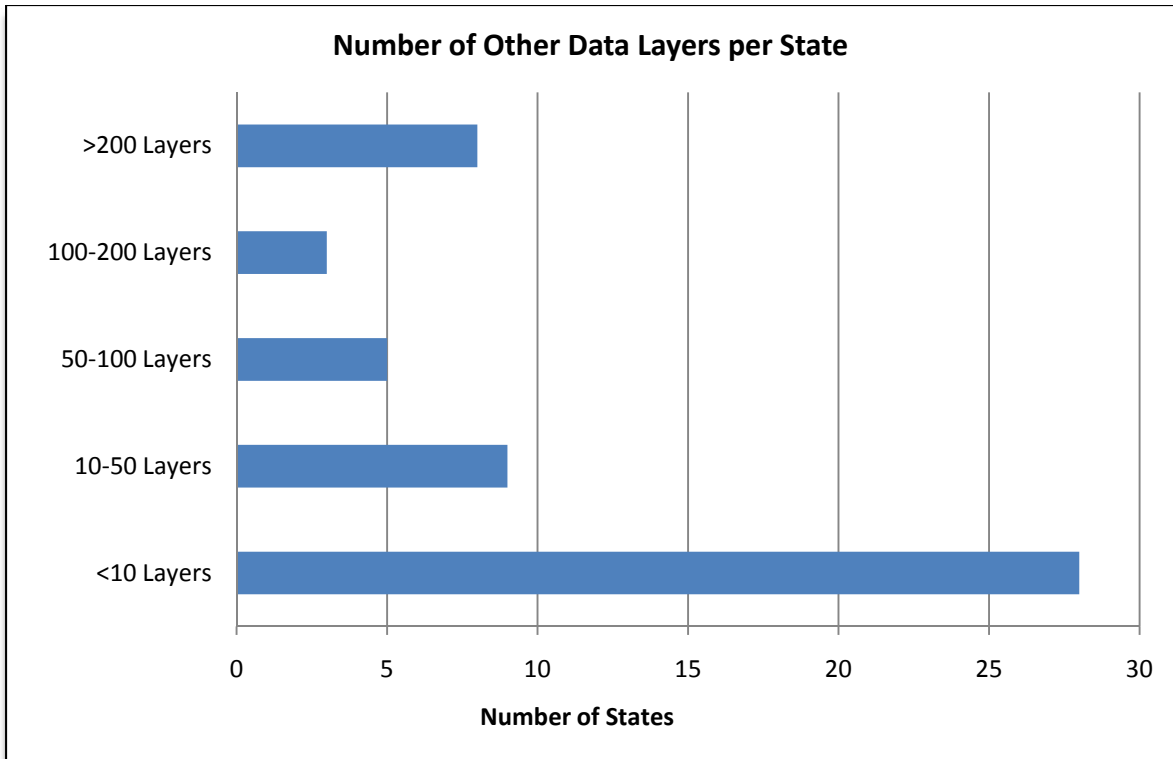 - o State
- ★ **Elevation(*)**
  - o Bathymetric Contours

- o Continuously Operating Reference Stations (CORS)

- o Contours

- o Digital Elevation Model (DEM)

- o Digital Surface/Terrain Models (DSM/DTM)

- o High Accuracy Reference Network (HARN)

- o Spot Elevations

★ **Imagery/Base Maps/Earth Cover**

- o Digital Orthophotography/Orthoimagery **(*)**

- o Land Cover

★ **Inland Waters**

- o Hydrography **(*)**

- o Watershed Boundaries

★ **Location**

- o Address Points

- o Geodetic Control Points **(*)**

- o Geodetic Networks

- o Geographic Place Names

★ **Planning/Cadastral**

- o Parcel/Cadastral/Land Ownership **(*)**

- o PLSS Townships & Sections

★ **Transportation (*)**

- o Airports & Airfields

- o Railroad Lines

- o Roads/Street Centerlines

(*) *Denotes FGDC Framework theme in the list above*

The following charts provide a quick glance at the adoption rate for the GIS Inventory.

Number of Users Documenting Data per State

Number of States

Number of NSGIC Framework Layers per State

Number of States

Number of Other Data Layers per State

7 Conclusions & Recommendations

The following are the important overarching conclusions and recommendations from this study:

Conclusions

- ★ The Fifty States grants have enabled progress that would not otherwise have been achievable. The funding has served as an important catalyst for statewide geospatial planning and "jump started" geospatial coordination activities in nearly every state.

- ★ States have credited the Fifty States grants with helping geospatial programs and activities achieve greater credibility with state executives and budget officials. This recognition has, in many cases, led to additional support for activities such as pilot implementation projects.

- ★ The Fifty States grants have helped to formalize efforts toward and improve statewide coordination, communication and collaboration among stakeholders. For example, a number of states have formed theme-specific workgroups to further engage stakeholders and effectively address plan needs.

- ★ Tangible results can take time to materialize. While some outcomes are quick to follow the completion of the strategic planning process, others, such as executive orders, legislation, or additional project funding, can take 3-4 years to come to fruition.

- ★ Planning is cyclical, and plans need to be updated. For example, the plans developed in 2006 are approaching five years in age, and will be in need of updating.

★ With regard to data needs, the strategic and business plans have revealed that the seven original framework themes remain a priority in nearly all states. These include *Geodetic Control, Cadastral, Orthoimagery, Elevation, Hydrography, Administrative Units, and Transportation.* In addition, *Addresses, Building Structures, and Critical Infrastructure* are priorities with many states.

★ Emergency management and homeland security applications remain a top application priority across all of the states, and services that support statewide coordination (e.g. standards), geocoding, and hosting and provisioning are in demand.

Recommendations

Build on the success and leverage the gains made over the past several Fifty States Cap grant cycles with ongoing investment in the planning and coordination process, and related efforts, as follows:

★ Ongoing review of progress, success factors, and the causes of setbacks and delays.

★ Periodic revision and updating of the Strategic and Business Plan Guidelines and associated expectations to meet evolving national objectives; for example, the concept of Geospatial Platforms and associated Data, Applications, and Services are not explicitly addressed in the current Guidelines, which were last revised in 2009.

★ Catalog and foster exchange of information, lessons learned, best practices and success stories among states and federal partners; continue with state case studies as a vehicle for information exchange.

★ Provide funding to stimulate the refreshment and advancement of prior plans or to establish new ones, in recognition of the cyclical nature of planning.

★ Expand support for and link of the GIS Inventory and GMA efforts to Strategic and Business Planning efforts, as well as Return on Investment (ROI) efforts.

★ Increase awareness across federal agencies of the successful outcomes of the planning process, and the value of products from the Fifty States Program for coordinated place-based strategies.

★ Encourage federal agencies to utilize the FGDC GIS Strategic Planning Guidelines for their own geospatial outreach initiatives, as is US DOT for the Transportation for the Nation (TFTN) initiative.

8   Appendix A: Survey Respondents & Questions

The following list represents the respondents to the June 2010 survey of Fifty States CAP grant recipients:

State	Name	Organization
AR	Learon Dalby	AGIO
AZ	Gene Trobia	AGIC
CA	Mary Cook-Hurley	CGIA
CO	Jon Gottsegen	Colorado Office of Information Technology
CT	Michael Varney	State of CT - DOIT / GISC
DC	Barney Krucoff	Office of the Chief Technology Officer
DE	Mike Mahaffie	Office of State Planning Coordination
FL	Richard Butgereit	Florida Division of Emergency Management
GA	Danielle Ayan	Georgia Tech Research Institute
HI	Arthur Buto	Hawaii Geographic Information Coordinating Council
IA	Jim Giglierano	Iowa Geological Survey
ID	Gail Ewart	Department of Administration
IL	Dan Wilcox	Illinois Department of Transportation
IN	Phil Worrall	Indiana Geographic Information Council
KY	Demetrio P. Zourarakis, PhD	Kentucky Division of Geographic Information
LA	Craig Johnson	Louisiana Geographic Information Center
MA	Christian Jacqz	MassGIS
MD	Kenny Miller	Department of IT
ME	Michael Smith	Maine Office of GIS
MI	Paul Harmon	Center for Shared Solutions and Technology Partnerships
MN	David Arbeit	Minnesota Geospatial Information Office
MO	Tim Haithcoat	Information Technology Services Division
MT*	Stewart Kirkpatrick	MT Department of Administration
NC	Joe Sewash	NC Center for Geographic Information and Analysis
NE	Larry K Zink	State of Nebraska CIO
NH	Ken Gallager	Office of Energy and Planning
NY	William Johnson	NYS Office of Cyber Security & Critical Infrastructure Coordination
OH	Stu Davis	OGRIP
OK	Mike Sharp	Office of Geographic Information
OR	Cy Smith	Geospatial Enterprise Office
PA	Stacey White	Commonwealth of Pennslyvania, Office of Administration
SC	Tim De Troye	South Carolina Geographic Information Council
SD	Erik Nelson	State of South Dakota

State	Name	Organization
TX	Rob Aanstoos	Texas Department of Information Resources
UT	Bert Granberg	Utah AGRC
VA	Dan Widner	Virginia Geographic Information Network
VI	Stevie Henry	VI Geospatial Information Council
VT	David Brotzman	VT Center for Geographic Information
WA	Joy Paulus	Dept of Information Services
WI	Curtis Pulford	Department of Administration
WV	Kurt Donaldson	WV GIS Technical Center, WVU
WY	Cathy Raney	Campbell County

*Montana received CAP money in support of the development of a geospatial strategic plan prior to the inception of the Fifty States Initiative.

The Following questions were included in the June 2010 survey of Fifty States grant recipients:

1. Please provide the following information:
    Name
    Organization
    State
    E-mail Address
    Phone Number

2. Which year was your grant received? NOTE: We are only surveying you about your Fifty States Initiative CAP Grant(s) to create Strategic and Business Plans. If you've received more than one grant, please check each year in which you received a grant.
    2006
    2007
    2008
    2009
    2010

3. What type of planning project did your State conduct?
    Strategic Plan
    Business Plan
    Both

4. Please indicate your level of agreement with each of the following statements. Remember that the goal of this program is supporting effective statewide coordination activities to build the NSDI through development of self-defined Statewide Spatial Data Infrastructures (SSDI).

> A. The grant(s) enabled progress to be made that otherwise would not have been possible.
>
> B. The grant(s) worked as a "resource multiplier," resulting in additional commitments of time and people to develop the Plan.
>
> C. The momentum continued after the grant funds were spent.
>
> D. Our USGS Liaison was important to the planning process.
>
> E. The grant was an important catalyst for the planning process to occur.
>
> F. The amount of the grant was adequate to support the planning process.
>
> G. We engaged local governments and other stakeholders in the planning process.
>
> H. By involving local governments and other stakeholders through the grant-funded planning process, the geospatial community in our state is working together more effectively.

5. Which of the following tangible results can be attributed to your planning process (Answer "In Place", "Underway", "Too Early To Expect Results", or "Not Applicable")?

> GIO Position Established
>
> Order
>
> Legislation
>
> Additional Staff Funding
>
> Additional Project Funding
>
> Greater Credibility with Executives and/or Budget Officials
>
> Stakeholders Are Working More Effectively Together
>
> Other

6. The grant was an important catalyst for achieving the following results (Answer "Strongly Agree", "Agree", "Disagree", "Strongly Disagree", or "Not Applicable - if you answered 'Too Early to Expect Results' or 'Not Applicable' in Q5").

> GIO Position Established
>
> Order
>
> Legislation
>
> Additional Staff Funding
>
> Additional Project Funding
>
> Greater Credibility with Executives and/or Budget Officials

      Stakeholders Are Working More Effectively Together
      Other (From Question 5)

7. Please elaborate on the most important outcome of your project or share any anecdotal information about the grants or your efforts that you think will be valuable.

8. What changes do you think are necessary to ensure the success of these grants?

9. How would you sum-up the Fifty States Grants in a "Sound Bite?"