Advancing Statewide Spatial Data Infrastructures in Support of the National Spatial Data Infrastructure (NSDI)

Strategic Plan Guidelines

For use by all stakeholders in the Geospatial Community

Produced for the Federal Geographic Data Committee (FGDC) to Support the Cooperative Agreements Program (CAP), Category 3: Fifty States Initiative

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This document replaces the "Strategic Plan Template" (March 2006) that was produced by the National States Geographic Information Council (NSGIC) under contract (05HQCN0034) to the Federal Geographic Data Committee (FGDC). This replacement version was produced under a contract: issued by the U.S. Geological Survey (USGS), FGDC Secretariat

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Foreword

Strategic planning is a critical process for articulating a shared vision, and for building the partnerships that are necessary for disparate organizations to work together on common goals. The key is to identify the business needs for geospatial data and services that are shared by many stakeholder groups. For instance, it is easy to envision that statewide orthoimagery acquired on a routine basis would be useful to almost all stakeholders in the geospatial community, as might be a widely accessible geocoding service. Effective planning is essential for moving collaborative programs forward and for gaining the required support for investments in your statewide spatial data infrastructure (SSDI).

This project is part of the Fifty States initiative from the Federal Geographic Data Committee (FGDC), in close cooperation with the National States Geographic Information Council (NSGIC) and other stakeholders in the geospatial community. A core component of this Initiative is establishing more formal statewide geospatial coordination councils that will help to govern and complete the NSDI by enabling all stakeholders. The principal goals of this project are to:

- Encourage implementation of statewide spatial data infrastructures through effective strategic and business planning efforts
- Provide guidance on planning activities
- Encourage the formation of partnerships and alliances that will improve planning process
- Provide a uniform national framework for strategic and business plans, for comparative analysis to reveal national trends

Several documents have been created to support the geospatial community in these planning efforts, including:

- **Strategic Plan Guidelines** that provides a structure for "mapping" a clear path from present conditions to a vision for the future into a plan document.
- **Strategic Planning Process Map** that divides the process of creating the strategic plan into five simple steps or phases that are each characterized by certain activities, tasks, and accomplishments.
- **Business Plan Guidelines** that provides a detailed description of how goals and objectives will be achieved, along with the necessary justification for action.

The Strategic and Business Plan Guidelines each include major section headings with key information and a series of questions that should be considered. Your planning team will determine which questions are applicable for their activities and use the answers to these questions to help draft an effective plan. This approach was developed, because "one size does not fit all" for these plans. However, the organizational structure of the main sections can and should be consistent with the Guidelines, even though the specific content of each section will vary for a variety of reasons, reflecting the differences in the organizations undertaking the plans.

Using these Guidelines will help you navigate through the entire process of preparing high quality and effective strategic and business plans. By simply substituting terms such as "countywide" and "citywide" for "statewide," the Guidelines should work well for most stakeholder groups.

Over the past three years, the states using these Guidelines have discovered that the "process" of working with people to create these plans, including the partnerships that are formed, may be more valuable than even the actual plans. Please make the process a valuable learning experience that leads to trust and new partnership opportunities.

STRATEGIC PLAN GUIDELINES

A good strategic plan should provide a clear explanation of how one or more strategic goals are to be achieved by an organization or program. It typically outlines **long-term goals** and details the specific strategies and **programmatic goals** that are to be pursued. Areas of risk are analyzed and specific strategies for overcoming those risks are considered. The strategic planning process is iterative and maps a clear path between a present condition and a vision for the future. Revisiting the Strategic Plan to review accomplishments against documented objectives, establishes both a **feedback loop** that can then influence future planning and decision making, and a basis for **performance measurement**.

HOW TO USE THESE GUIDELINES

The Guidelines provide an organized approach and process for creating Strategic Plans. The plans take shape through an iterative process of facilitated group discussions, research, drafting, and review. The reader will find instructions in each section (in non-serif brown typeface). Under each section, a number of **questions are included** (in black serif typeface) **that a facilitator should use** to guide the creation of appropriate content for the plan. Not all questions will be appropriate for your organization's circumstance, but the topic areas covered are all important when considering whether to establish or expand a statewide spatial data infrastructure (SSDI). It is important that you define **what portion of your SSDI you intend to address by creating this strategic plan** (e.g. statewide coordination, standards implementation, data production, common applications development, etc.) The questions incorporated into the Guidelines all pertain (in one form or another) to **broad strategic concerns**, though some are quite specific. The broader strategic concerns are:

- Who are we?
- Where are we?
- Where do we want to go (or not go) and why?
- How do we get there?
- How do we know when we get there?

In completing this strategic planning process, your organization(s) will have a **consistent framework** for articulating its purpose, values, roles, objectives, strengths, and weaknesses. This effort is intended to provide a roadmap to a geo-enabled future where the needs of the organization and its constituents are better served. For each section, a **list of questions** is provided to facilitate the planning process and yield content for the plan itself through the answers and discussion. As previously mentioned, not all of the questions need to be answered, as the situation may vary from state to state.

A **Strategic Planning Process Map** has been developed as a separate flow chart and check list for facilitating the planning process, and is available as a separate document on both the NSGIC and FGDC websites. The purpose of this approach is to establish a consistent framework for strategic planning related to SSDI matters across all states. The approach outlined in these Guidelines will help you to develop a strategy for your own situation; but also, it will **assist in the development of the NSDI.**

The Strategic Plan Guidelines are broken down into sections. For recipients of Fifty States Agreements, the main section topics are considered "mandatory." This does not make everything within each section mandatory, but rather, requires that each of the main sections be addressed in a reasonable fashion. The following table is a summary of "mandatory" and "mandatory if applicable" elements within each section:

Table of Mandatory Elements

Mandatory Main Section	Mandatory Element	Mandatory if Applicable
1. Executive Summary	What do you want to do?	
	What stakeholders were engaged in the planning process (briefly), and how was their input solicited (e.g., surveys, workshops, interviews, etc.)?	
2. Current Situation	Who is coordinating the planning process?	
	Table of Stakeholder Participants	
		Status Table on Framework Layers
		Status Table on Nine Criteria
	Do you have a Clearinghouse?	
	List top three strengths	
	List top three weaknesses	
	Top opportunity	
	Top threat	
3. Vision and Goals	Include a vision or mission statement	
	Include strategic goals	
	Include programmatic goals for your most important (highest priority) strategic goal	
4. Requirements	What is your overall estimate of costs?	
5. Implementation Program	Provide a breakdown of proposed phases and a timeline of major milestones	
		What opportunities exist for alignment and cost-sharing with Federal agencies that are collecting geospatial data?
6. Appendices	Include appendix on how you organized and conducted your planning process (i.e. "Strategic Planning Methodology")	

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1 EXECUTIVE SUMMARY

The Executive Summary should be an executive level presentation of the more detailed Strategic Plan contents. This section should **provide a clear, cogent presentation** of how this particular strategic plan aims to support the broader strategic goals of the organization, the benefits to be realized by adopting it, a realistic timeframe for its implementation and the associated costs. Though this section should **be brief**, it should include sufficient detail to allow the targeted reader to quickly understand what it is you want to do, what are the benefits, and what resources you need to accomplish the objectives? If the **strategic goals** are broad in scope and impact, then a simplified timeline should be included indicating anticipated milestone achievements during the lifecycle of the current plan. The stated goals should clearly support the broader organizational mission objectives.

These Guidelines will help you flag the **key items** that should be succinctly encapsulated into the Executive Summary. For example, the envisioned "Programmatic Goals" for implementing your strategy could be listed. The length of this section as part of the Strategic Plan document should be short, but a longer version of the Executive Summary can be developed as a companion piece to the Strategic Plan. A tight narrative of several paragraphs, followed by a list of key bulleted items, would be appropriate as an executive summary.

   a. Briefly, what stakeholder groups were engaged in the planning process (briefly – the details belong in the Appendix on "Strategic Planning Methodology"), and how was their input solicited (e.g., surveys, workshops, interviews)? *(Mandatory)*
   b. What do you want to do? *(Mandatory)*
   c. What is the fundamental problem(s) that this plan addresses?
   d. What are the primary benefits?
   e. How does this Strategic Plan support the bigger picture?
   f. What are the key elements of the plan in summary form?
   g. What alternatives were explored?
   h. What are the costs and benefits of implementing the suggested approach?
   i. What action do you hope gets taken after your targeted reader reviews this plan? (What are you asking for?)

2 CURRENT SITUATION

Planning for the future starts with an assessment of the current situation. It begins with a couple of basic questions: **1) Who are we?** and **2) Where are we?** In this regard, **strengths and weaknesses** are important to articulate. Also, since it may vary from state-to-state, the definition of what "statewide" means in the context of the SSDI needs to be agreed upon. In addition, the existing foundation to be built upon needs to be understood. Understanding the **status quo** is a precursor to implementing change.

In some states, the state government has assumed the overall responsibility for coordinating SDI activities. However, other stakeholders besides state government may

take the lead. The questions in this section are intended to be broad enough to apply to both situations, and depending on the responses, will give some focus to:

- **WHO** is coordinating efforts to build a statewide spatial data infrastructure *(Mandatory)*
- **WHAT** has been accomplished in the past
- **HOW** was it accomplished

These are key questions for moving forward and the answers will not be the same from state-to-state.

The **planning facilitator** needs to get the planning participants to start talking (or writing) and the content for characterizing the current situation will begin to emerge. The process itself is as important as the answers, and some questions are more straightforward than others. In some ways, this portion of the strategic planning effort is a reality check on what ultimately might be feasible. For example, a volunteer with no mandate, but a willingness to embark on a coordination effort, will not likely be able to accomplish as much as an official with a mandate to coordinate. This may not always be the case, but more often than not, it will be relevant to understand how someone can make something happen, including the execution of a **planning process**, based on whom they are accountable to and what empowers them.

2.1 Who are we?

This section of the Strategic Plan is basic and fundamental. All plans start with some assessment of "who we are," including **who is coordinating** the planning process.

Stakeholder groups that ideally should be represented in statewide coordination and planning activities are listed below. Generally, these groups will only support your planning effort if they have the opportunity to participate. The outreach is a critical function of the planning process. The table below should be filled in to show which of these groups participated in your planning process *(Mandatory)*:

Table of Stakeholders

Stakeholder Group	Did They Participate? (Yes/No)
Government:	
Municipal	
County	
State	
Tribal	
Federal Regional	
Federal Headquarters	
Regional	
Other:	
Private Sector	
Non-Profit Organizations	
Academia	
General Public	

NOTE: The participation of each group is not mandatory, but a table showing who did participate is a mandatory element for the plan document. Also, while not mandatory, this is a good place to **briefly describe how input was solicited and received**. Details of actual participants (e.g., names and other specifics, such as dates and methods of participation) can be included in the Appendix on "Strategic Planning Methodology."

The group that pursues the completion of the Strategic Plan can be comprised of representatives from a number of these groups and organizations that are forged together by common needs, concerns, and purpose. **The statewide strategic goals are not necessarily being established by state agencies, but potentially by a broader and diverse group of stakeholders that are able to achieve them.** In some states the vision of the SSDI may be more actively pursued by a group of counties (and not necessarily state agencies), regional planning councils, or other organized groups that form **partnerships** around common objectives. In each case, the questions of who we are and who we represent need to be answered. It is this 'we' that is further questioned and analyzed in the *Strengths and Weaknesses* (Section 2.3) and *Opportunities and Threats* (Section 2.4).

Appropriate representation may require that the group authoring the strategic plan reach out to the stakeholder community to harvest insight and feedback. Involving the wider community in the analysis of strengths, weaknesses, opportunities and threats can begin to lay the groundwork for community participation, as well as buy in for the process itself and the resulting strategic plan.

   a. Who are we? Note: Use the "Table of Stakeholders" as a checklist, and add other stakeholder groups to the list as needed to match your situation. *(Mandatory)*
   b. Who else should we consider as being a stakeholder? (e.g., private companies, other states if building an emergency response capability.)
   c. Which, if any, stakeholders should be included in our strategic planning efforts?
   d. Who are the key external stakeholders? (e.g., GIS data consumers such as utility companies)
   e. What are the common interests of the stakeholder community we represent and how can we best represent them?
   f. What is our relationship to the state? (Perhaps we are the state.)
   g. What does statewide mean to us? (e.g., what is our user base, and what are their needs?)
   h. Do our stakeholders work in multi-state areas and if they do, how do the respective state planning efforts affect these stakeholders?
   i. What are our mandated responsibilities? (e.g., charters, policies, laws, codes, regulations, etc.?)
   j. What are our informal mandates? (e.g., stakeholder or community expectations?)
   k. What are our values? (e.g., do we strongly value an open source approach? Do we support inter-operability as a notion? Is vendor lock-in a good thing or a bad thing?)

STRATEGIC PLAN GUIDELINES

l. Are we part of a bigger organization? (e.g., a Regional Development Corporation that reports to the state.)
m. How would we operate if we were part of one organization?
n. What are the goals of the broader organization? How will our planning efforts dovetail with the broader organizational objectives? (Ensuring that goals are compatible ensures greater likelihood of success.)
o. What is the mission statement of the broader organization?
p. How does this Strategic plan support those broader organizational goals?

2.2 Where are we now?

This section of the Strategic Plan provides an **assessment of the existing situation**. It will help to inform the completion of the Requirements Section. Include the following table showing status of the 7 NSDI Framework Layers, plus other base themes of significance to statewide spatial data infrastructure and to NSDI *(Mandatory if Applicable)*:

Framework Layer	Status (Non-existent, Incomplete, Complete)	Available to NSDI (Yes/No)
Geodetic Control		
Cadastral		
Orthoimagery		
Elevation		
Hydrography		
Administration Units		
Transportation		
Other Base Themes of Significance:		
Structures		
Land Use		

Note: Other layers that are relevant to the planning effort may be listed at your own discretion, as appropriate.

Also, for the NSGIC Nine Criteria, include the following table showing status *(Mandatory if Applicable)*:

NSGIC Criteria	Status (Non-Existent=RED; Partially in Place=YELLOW; Completely in Place=GREEN)	Status Description
1. A full-time, **paid coordinator** position is designated and has the authority to implement the state's business and strategic plans.		

NSGIC Criteria	Status (Non-Existent=RED; Partially in Place=YELLOW; Completely in Place=GREEN)	Status Description
2. A clearly **defined authority** exists for statewide coordination of geospatial information technologies and data production.		
3. The statewide coordination office has a **formal relationship with** the state's Chief Information Office (**CIO**).		
4. **A champion** (politician or executive decision-maker) is aware and involved in the process of geospatial coordination.		
5. **Responsibilities for developing** the National Spatial Data Infrastructure (**NSDI**) and a State Clearinghouse are assigned.		
6. The ability exists to work and **coordinate with local governments**, academia, and the private sector.		
7. **Sustainable funding** sources exist to meet project needs.		
8. GIS Coordinators have the **authority to enter into contracts** and become capable of receiving and expending funds.		
9. The **Federal government** works through the statewide coordinating authority.		

Other questions to consider are as follows:

      a.   Do we have a metadata Clearinghouse for statewide data? *(Mandatory)*
      b.   How is statewide GIS Coordination being performed? (e.g., is there a coordinating committee or an unofficial but de-facto GIS Coordinator?)
      c.   Is there a statewide GIS Coordinator?
      d.   Where is the GIS Coordinator housed?
      e.   To what organization does the GIS Coordinator belong?
      f.   What is the GIS Coordinator's responsibility over the Coordinating Council?
      g.   How might the level of influence and authority of the Coordinating Council be characterized? (This speaks to its current effectiveness)
      h.   What is the relationship between state agencies and local government and does this need to be improved?

i.   What is the relationship between different state agencies and does this need to be improved?

j.   What standards are being used, by whom, and are they appropriate? (e.g., data standards, metadata standards, etc. See appendix 5.

k.   What is the state of our technology infrastructure? (hardware, software, networking/communications)

l.   Specifically, what geospatial content do we have?

m.   Do we use the "GIS Inventory Tool" (powered by Ramona) courtesy of NSGIC? (see http://gisinventory.net)

n.   Have we aggregated data from sources more local than we are? (e.g., has critical infrastructure data captured at the municipal or county level been rolled up to provide statewide data?)

o.   What resources are available to support the planning process?

p.   Does a Strategic Plan already exist for us? Are the assumptions and goals still valid?

q.   Is anyone else doing the same thing, or competing for the same resources? Are there opportunities to work cooperatively?

r.   What political party is in power, and what is their party platform? (e.g., economic development, homeland security, education, agriculture, smart growth, etc.?)

s.   Do we currently participate in any federal geospatial initiatives? (e.g., FGDC/NSDI, GOS, DHS, NGA-USGS/HSIP)

t.   Do existing federal initiatives provide funding support for our SSDI efforts? How much?

u.   What value has resulted from Federal support of our SSDI implementation efforts?

v.   Are any of our mandates outdated?

w.   What impacts do mandates have on our organization, including their implication for how we can use our resources?

x.   How do we ensure that top political officials care about the SSDI?

y.   How do we ensure that our top political officials support our initiative to build the SSDI? What's in it for them and will we have a positive impact on their "hot" issues? (e.g., economic development, smart growth, preserving open space, tourism, or emergency response)

2.3 Strengths and Weaknesses

Part of understanding "who we are and where we are" is an assessment of strengths and weaknesses. Primarily, this assessment is **inward-looking**, although there may be some relevant external factors. Organizational strengths such as technologies, people, and capabilities, may be distributed and separately controlled by different agencies or groups. Lack of commitment to harness such strengths around a common goal may be a weakness; however, it may also be an opportunity waiting to be realized. Strengths help position an organization to take advantage of opportunities, whereas weaknesses may make the organization vulnerable to threats, or less able to exploit opportunities.

a.   What are our top three strengths? *(Mandatory)*

b. What are our other strengths? (e.g., experienced staff, funding, authority, political support, communications infrastructure for collaboration, technical skills, marketing skills, etc.)

c. What are our top three weaknesses? *(Mandatory)*

d. What are our weaknesses? (e.g., lack of staff, lack of funding, lack of expertise, and lack of any of the other things listed under strengths; also, wildly divergent needs, disagreement on goals and priorities, etc.)

2.4 Opportunities and Threats

Opportunities and threats are often **outward-looking**, including such factors as stimulus spending to boost the economy (an opportunity), or diminishing tax revenues due to a sagging economy (a threat). The basis for implementing a statewide spatial data infrastructure is the assumption that doing so will open up the stakeholders to **opportunities to accomplish meaningful things** that are not possible without the SSDI. For example, an effective SSDI can help minimize duplication of effort in terms of data collection, and will greatly facilitate data sharing. Likewise there are vulnerabilities associated with not implementing the SSDI, and these may be characterized as **threats to be avoided**, or to be anticipated. For example, not having the SSDI will make it harder to establish a Common Operational Picture (COP) in the event of a large-scale emergency. Every state is subject to catastrophic events, including terrorist activities, hurricanes, tornados, wildfires, drought, winter storms, disease, and flooding. The questions in this section are intended to expand upon both opportunities and threats, which are either enabled or avoided by implementing the SSDI, or the consequences of not implementing the SSDI.

a. What is our top opportunity? *(Mandatory)*

b. What opportunities are made available by implementing the SSDI? (e.g., cost savings from eliminating duplication of effort, improved decision support, access to grant money and cost-sharing programs, data sharing as a function of standards, common interfaces and interoperability for users to better understand and achieve enhanced productivity)

c. Does implementing the SSDI provide for a better Return On Investment (ROI) than current approaches? (e.g., NASA and Ohio studies – see Appendix 2)

d. What opportunities are there to participate in federal geospatial initiatives that position us for additional funding to meet our objectives?

e. What opportunities exist for coordinating resources across multiple agencies or organizations? (e.g., are there benefits to establishing a GIS Service Division to replace similar type activities that currently occur in multiple agencies? Can parcel data updates be managed by a Regional group that serves multiple counties?)

f. What is our top threat? *(Mandatory)*

g. If we do not implement the SSDI, what are the threats? (e.g., in an emergency, we're less prepared to respond; can't share data; ineligible for grants. We are not able to share data across state boundaries.)

h. Are there previous initiatives that failed due to the lack of congruence with other statewide strategic plans? (If so, there is a potential threat that this

effort could also fail if not effectively coordinated with other statewide efforts.)

    i.   If we do not coordinate and implement the SSDI, and continue to do things the same way, will our "reason-for-being" be diminished or undermined? Will the coordination and leadership role be assumed by someone else with a narrower long term vision?

3   VISION AND GOALS

Developing a vision or mission statement is an important part of the planning process if you do not already have one. A **mission statement** is a brief, high-level description of your desired outcomes and values. It expresses the vision for your jurisdiction's beneficial use of GIS, with a long-term and high-level view. An example of a mission statement follows (courtesy of the District of Columbia).

The Mission of DC Geographic Information System (DC GIS) is to improve the quality and lower the cost of services provided by the DC Government, through the District's collective investment and effective application of geospatial data and systems. Furthermore, DC GIS will reach beyond the DC Government by continuing to make DC GIS data freely and publicly available to the fullest extent possible in consideration of privacy and security.

Strategic goals support the mission statement, and are intended to help make your vision a reality. In discussing and understanding the strategic goals, a set of supportive subordinate goals are also developed. These are the **programmatic goals** that are also discussed in this section. The programmatic goals are about defining the steps that are necessary to successfully implement strategic goals, and tend to be shorter-term goals, but not always (depending on the purpose).

An overarching strategic goal articulated by NSGIC is to support the development of plans **"to implement a statewide spatial data infrastructure (SSDI) consistent with appropriate national standards."** It is important to make sure participants in the process understand and agree that the contemplated goals are important and relevant to your own jurisdiction; and yet, they should also be relevant to national objectives. Part of building this support is effectively identifying problems that will occur if you do not move towards achieving the SSDI and the benefits if you do. Articulating the **programmatic goals that support the strategic goal(s)** is an important part of this effort, and will ultimately drive subsequent business planning related to implementation. It is good for the goals to be challenging rather than trivial, but often planning falters when there is a substantial gap between expectations and what is feasible based on realistic estimates of resource availability.

The questions in this section should be useful in articulating and refining the shared understanding of the target goals to be implemented, both strategic and programmatic.

- What should our mission statement be (or if we already have one, what is it)? *(Mandatory)*
- What are we trying to accomplish?

- What is the boundary (project limit) of what we want to achieve?
- Are our goals measurable? How do we know when we have achieved them?
- Are our goals clear, concise and attainable?
- Have our goals been prioritized, and which ones are most critical to the success of this effort?
- Where do we want to be in the near-term (i.e., one year from now), in terms of accomplishments? Where do we want to be in the long-term (i.e., five years from now)?

3.1 Strategic Goal(s)

The strategic goals support your vision, or mission statement. They are **high-level** and long-term (e.g. five year time horizon) in outlook. They should be relevant to your state's policy objectives, and also consistent with the objective shared by NSGIC and FGDC to build the NSDI as an overarching goal. Strategic goals are a *Mandatory* element of this plan, as is the mission statement.

Examples of state-level strategic goals (courtesy of the State of Colorado) are as follows:

Strategic Goal #1:
Support better stewardship of our resources and increased prosperity, safety and services for our citizens by increasing GIS awareness and capacity across the state.
Strategic Goal #2:
Make government more efficient and effective through the coordinated use of geospatial technologies and the promotion of best practices.
Strategic Goal #3:
Enhance the information basis for public and private decisions by improving the quality and availability of geospatial information and services to support decision-makers and other consumers of GIS data and services, in concert with the state's enterprise architecture and the World Wide Web (www).

Questions that will help formulate appropriate strategic goals are as follows:

a. What does the NSGIC stated strategic goal (RE: SSDI) mean to the Strategic Planning Committee and the stakeholders that the group represents?
b. How does the Statewide Spatial Data Infrastructure (SSDI) dovetail with the National Spatial Data Infrastructure (NSDI) objectives?
c. Do we understand and agree with the stated NSGIC goal?
d. Do we have other strategic goals that are relevant to implementing the SSDI? Are they similar to the NSGIC goal? How are they alike or dissimilar?
e. What is important to our state (or other planning entity)?

     f.   How do our goals support high-level policy objectives and initiatives?

3.2 Programmatic Goals

Given the strategic goals, the next step is to articulate the programmatic goals that are intended to help **drive the SSDI implementation program**. For the planning process to succeed, it is important that the programmatic goals be achievable and compatible with one another.   While each strategic goal should ultimately have a set of associated programmatic goals for guiding implementation, it is *Mandatory* that at least one strategic goal have such an associated set.

Taking Strategic Goal #3 from the example above, the following is a set of programmatic goals to guide implementation efforts (courtesy of the State of Colorado).

Programmatic Goals for Strategic Goal #3
1) Establish a repository of statewide geospatial data sets from authoritative sources for prioritized features and data types
2) Provide easy and ubiquitous access to both geospatial data and metadata for both professionals and citizens
3) Recognize GIS as critical infrastructure and enable a Web service-orientation for basic GIS functions to meet statewide demand

Other examples of programmatic goals include:

- Establish authority for the statewide coordination of geospatial initiatives
- Establish a statewide Geospatial Coordinator position
- Develop standards in support of data exchange across all levels of government and between private industry and academia
- Develop a state-wide parcel data layer product with ongoing maintenance and support
- Establish a three year leaf-off orthoimagery program
- Establish a State Clearinghouse for geospatial data
- Continue to raise the level of awareness within state government about the importance of long-term program support for GIS activities within the state
- Support geospatial data needs of the National Response Plan

The following questions will help guide discussion on formulating programmatic goals.

     a.   Have we reviewed the NSGIC Coordination Criteria and identified actionable goals from the nine criteria?

     b.   Do we have our own programmatic goals that support the implementation of SSDI for our situation? (e.g., development of a statewide critical infrastructure data layer.)

3.3 Monitoring and Measuring Success

A regular assessment of progress at a reasonable time frequency is necessary in order to ensure that plan goals are achieved in a timely and effective manner. Course correction(s) may be required as new information becomes available or new opportunities or threats develop. **Performance measurement** is important for plan validation and recalibration.

   a. What are the key critical success factors that would indicate to our stakeholders that we are on the path to success?
   b. What performance metrics should we use? For each programmatic goal there should be one or more objectives along with a performance benchmark. These should be detailed in an associated Business Plan.
   c. What cost avoidance can be expected and how can this be ascertained? (e.g., greater coordination may result in less duplication of effort for data development activities. Both a Public Works agency or department and a transportation agency or department may have similar needs for road centerline data and may be duplicating data development and maintenance activities.)
   d. How do we capture cost-benefit data and determine return on investment (ROI), both quantitatively and qualitatively?
   e. How often should we assess progress to determine if recalibration is needed?

4   REQUIREMENTS

To implement yours goals and to build a statewide spatial data infrastructure requires both technical and organizational measures. Some measures may be simple, but others may be transformational in a dramatic way. The purpose of the section is to explore how **managerial elements** are sufficient or deficient in their ability to support your goals and enable the development of your SSDI. Finer-grain details and requirements will be addressed in separate Business Plans to help implement this Strategic Plan.

4.1 Organizational Needs

This section of the Strategic Plan aims to identify any organizational **transformation** that might be needed to implement the SSDI goals. For example, are there resources spread out across many departments that could be consolidated or more tightly aligned? Although it is a resource issue, the people availability and alignment to support the SSDI goal is an important consideration from an organizational standpoint.

   a. Is the need for organizational change recognized?
   b. Is it feasible to reorganize around the objective of statewide GIS coordination or a statewide spatial data infrastructure?
   c. How would reorganization be perceived by management, staff, and other stakeholders?
   d. What organizations have resources devoted to GIS projects and technology? Are these resources deployed in the most productive manner?

e. How would we operate if we were part of one organization? This might simply be a hypothetical exercise in thinking outside the box, or it might reveal insights into new ways of aligning the objectives of different organizations.

4.2 Executive Support

Executive support is essential for the successful implementation of any plan. Trying to operate 'below the radar' without executive support risks the cancellation of the program; and, it will clearly eliminate funding opportunities. To engage executives and win their support make sure they are part of the process.

a. How do you ensure that top political officials will care about a spatial infrastructure, i.e., what's in it for them? (e.g., Economic Development, Smart Growth, Preserving Open Space, Tourism, Emergency Response, etc.)
b. What specific support do you need from executive management and do they understand this need?
c. How will you brief top officials on your progress, and on issues that you encounter that they might help resolve?

4.3 Coordination and Oversight Procedures

In the socio-political environment that the SSDI is part of, both formal and informal coordination amongst stakeholders and **executive leadership** is essential. As mentioned in an earlier section, stakeholder groups should be represented in statewide coordination activities. Also, there should be some executive-level oversight of the planning process and resulting Strategic Plan.

a. What is the charter for the GIS Coordinating Council?
b. How do we assign responsibilities for implementing the SSDI based on our needs?
c. Is there a higher authority for arbitrating disputes?
d. What is our relationship to the state's CIO?
e. What is our relationship to the Governor's office and the current Administration? Are any known changes pending?
f. Have we identified a political champion(s)?
g. What is our "track record" on working between the various levels of government?
h. How do we improve on our current status with regard to the above criteria?

4.4 Policy

There are two important considerations when it comes to policy. One is to consider any **new policies** that might be needed to make statewide spatial data infrastructure (SSDI) feasible. The other is to consider **existing policies** to better understand the societal context for SSDI, and the legal and political climate in which it must operate.

a. How do our existing mandates assist, limit or modify what we wish to achieve?

b. Do we need to address any of these mandates and act to modify them to bring them into line with our current goals and objectives?
c. What new policies are needed, if any?

4.5 Staffing

Depending on the economic climate, the availability of staff for programs related to SSDI implementation varies widely. In some cases, **new positions** might be needed; and in others, consolidation or realignment of **existing resources** might be most appropriate.

a. How do we justify a full-time, paid support staff? (e.g., GIS coordinator, Database Administrator, GIS Analysts, etc.)
b. What qualifications should such staff have?
c. What support personnel are needed to implement the SSDI?
d. Are volunteers useful to our efforts, and are they available?
e. Are professional credentials and certifications an issue for us?
f. Do we have job descriptions for the roles that needed to be fulfilled?

4.6 Costs

The costs of implementing your strategy are important to **estimate**, even if qualified as a "rough order of magnitude." The major elements of your plan should be listed, with your cost estimates, and the **assumptions** (or biases) of your estimating process. The issue of how you propose to get the funding, as well as other details, should be addressed in Section 5.3 (Budget Plan) where you might propose the details of an incremental approach to funding.

a. What is our overall estimate of costs? *(Mandatory)*
b. What are the elements to our program that will drive costs?
c. What is the basis for making our cost estimates?
d. What guidelines are available from administration and finance for estimating costs? (e.g. labor rates, interest rates, opportunity cost)
e. Can we defend our numbers?

4.7 Outreach and Community Development

Raising awareness of your SSDI and liaising with **communities of interest** are valuable activities that support the strategic planning process. This is often a spill over benefit of workshops, interviews, and surveys; but it can also be by specific design, and can include presentations at a variety of stakeholder events, web postings, and related outreach. In many ways, this is closely related to marketing (see Section 5.5), and could be construed as **public relations** in that context.

a. What are the logistics of maintaining a sufficient level of communication between the strategic group and the stakeholder community?
b. Are we leveraging existing GIS communities? (e.g., User Groups, Roundtables, List Server members)
c. Do we have a group identity for our GIS coordination community?

4.8 Assessing Risk

An assessment of risk helps you to better understand what **obstacles** your plan might face as it is considered by decision-makers and implemented. It also may help to describe the risk of not moving forward with implementation, and maintaining the status quo. The threats you identified under Section 2.4 will be informative to your assessment of risk.

     a. What are the major external challenges that could possibly affect our efforts in a negative way?
     b. What operational issues do we have and how can we overcome these?
     c. How do we recognize and overcome obstacles?
     d. What might happen if we do not anticipate obstacles?
     e. How do we assess SSDI vulnerabilities? (e.g., public access to sensitive data, system back-ups, viruses and such, etc.)

5 IMPLEMENTATION PROGRAM

This section of the Strategic Plan aims to **'divide and conquer'** the breadth of elements that comprise the SSDI. The purpose of this is to make implementation more manageable and achievable. This section of the Strategic Plan should document a set of **specific steps, phases, and activities** required to get to the end-state. This is the strategy for moving forward. Different states will have different priorities in this regard and therefore different strategies. The sections below are intended to help define the overall framework for implementation. As a follow-on activity separate from the Strategic Plan, individual **business plans** are necessary to articulate implementation details.

This is where a **phased approach** might be delineated, with targets for where the statewide spatial data infrastructure should be along a timeline with milestones. Showing incremental progress can be a good thing.

Funding is critical for being able to act on the agreed-upon strategic direction. Each particular group or organization may have various funding opportunities, sources or requirements. Certain initiatives may be funded fully and directly, while others could be funded from more than one source. For example, counties may embrace the idea of **cooperative cost-sharing** in order to complete a joint ortho-imagery project on a three year cycle or to develop a data clearinghouse. This is helpful if it can be addressed. If Federal agencies see from the plans that a state is interested in certain types of cost-sharing, it can become the basis for helpful dialog.

NOTE: Within the Strategic Plan, implementation details should be kept relatively sparse. Implementation details comprise the primary content of a Business Plan (see the separate **Business Plan Guidelines**).

5.1 Implementation of Programmatic Goals

Here is where you start to think about "how" you will approach the implementation of your Strategic Plan, short of detailed business planning at a fine-grain level. **Organizing implementation efforts** around specific programmatic goals is often pragmatic and actionable (e.g., data layers such as imagery, cadastral, and transportation; or functional themes such as public safety, public health, and environmental management; or applications/business processes such as permitting, asset management, and land acquisition). It is not intended that you get too deep into implementation details in the

Strategic Plan itself. The **finer-grain details belong in Business Plans** that are focused on implementing subsets of your plan.

    a.   How will you "divide and conquer" by prioritizing strategic and programmatic goals to be the focus of individual Business Plans?

    b.   Are there rational sets of projects that should be logically grouped as part of a separate Business Plan?

    c.   Who is responsible for delivering on each project?

5.2 Phasing and Milestones

Here is where you identify the **coarse-grain breakdown** of your plan to drive subsequent action.   An incremental approach is often most realistic. You should identify what is feasible in the operating climate you are working within, and establish a schedule for implementing your goals.

    a.   What is the breakdown of proposed phases and a timeline with major milestones? *(Mandatory)*

    b.   Based on available time, and in consideration of resources, what is realistically achievable?

    c.   Are we looking at a phased implementation?

    d.   What are the target dates for the completion of each phase?

5.3 Budget Plan

Here is where you address how you propose to obtain the funding required to implement your plan. As mentioned in the section on Requirements, your costs are estimated before you determine **how to secure and schedule the necessary funding**. It is important to understand the budget cycle for your jurisdiction, as well as the process for submitting your budget request.

    a.   Are there mechanisms for cost-sharing or cooperative funding with Federal agencies doing geospatial data collection? *(Mandatory if Applicable)*

    b.   Based on the implementation sub-projects and phases, what are the budgetary needs?

    c.   What are the options for cost-sharing across multiple local organizations? (e.g. counties working together could fund an ortho-imagery project)

    d.   What are the specifics of the financial business process and budgeting cycle? (e.g., what is the Fiscal Year for budgeting purposes, and milestones along the way for submitting and approving budget requests?)

    e.   Are Federal grants moneys available directly from the Federal Government or through State organizations?

    f.   Who should be the financial authority for administering the budget?

    g.   What funds can be allocated for time period of the implementation program?

    h.   How does the available budget affect the deliverables and project timeline?

i. How are we funded? (e.g., dedicated funds, special funds, mission-driven funds, general funds, service fees, assessment on agencies, permit/license fees, federal grants, central and capital funds, cost recovery?)
j. How can we redirect existing funding to achieve our goals?
k. How do we insulate ourselves against future budget cuts and shortfalls?
l. If a GIS Coordinator is needed, how can this position be allocated and funded?
m. How can any other required staff positions be allocated and funded?

5.4 Lessons-learned from Other States or Prior Efforts

The NSGIC community has developed a substantial and **growing body of knowledge** about strategic planning and implementation. Likewise, FGDC has built a library of GIS Strategic Plans published by CAP grant recipients. Both web sites have useful resources:

http://www.nsgic.org/

http://www.fgdc.gov/

a. Are there some good examples of SSDI implementations in other states?
b. What are our lessons-learned from prior attempts to move your SSDI forward?

5.5 Marketing the Program

Marketing is often neglected by GIS coordinators, but it can be a critical component to successfully **positioning your SSDI initiative in the minds of desired supporters** and constituents. In addition to the "public relations" aspect of outreach and community development, there are other specific tools and techniques for marketing your program. NSGIC has developed supporting materials as examples. The following questions will help identify marketing elements that you should consider.

a. How do we get the word out? (e.g., press releases, articles, whitepapers, workshops, seminars, conferences, webcasts, podcasts, etc.)
b. Who is our target audience for messaging?
c. What events should we attend?

6 APPENDIX: STRATEGIC PLANING METHODOLOGY

This section describes the process undertaken to complete the Strategic Plan document, whereas the main body of the document will deal more specifically with a characterization of the situation you are starting from, and where you want to go. This appendix is for you to explain **how you organized** to develop the plan, and how you conducted the planning process. going beyond what you might choose to put in the main body of the plan.

When you are actually writing your plan, include any **relevant details on the actual methodology** that you used in this appendix. For example, details might include the names of people interviewed or who attended workshops, with the dates and specific locations. This should indicate to the reader that the plan and its recommendations are

based on a solid and appropriate approach which has included all necessary stakeholders to the extent possible. The reader should clearly understand any **constraints or limitations** that impacted the results of the planning exercise. Examples of such constraints could be the time, people, and other resources available to complete the planning process, access to certain information, and external factors (e.g., changes in priorities by higher authorities).

When you are getting underway on your planning effort, there is a separate but related document called **"The Strategic Planning Process Map,"** which provides guidance on how to organize and conduct your planning process. The SPP Map is available on both the FGDC and NSGIC websites.