

REPORT OF THE

**Commission on Population
Growth and Development**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



HOUSE DOCUMENT NO. 76

**COMMONWEALTH OF VIRGINIA
RICHMOND
1994**



COMMISSION ON POPULATION GROWTH & DEVELOPMENT

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February 1, 1994

To the Honorable George F. Allen, Governor
and the General Assembly of Virginia

Please accept this annual report of the Commission on Population Growth and Development, in fulfillment of our obligation pursuant to Title 9, Chapter 22.4 of the Code of Virginia (HJR 435, 1990).

The Commission has completed a comprehensive study of the effects of population growth and development in the Commonwealth and has proposed legislative initiatives to meet the challenges of the future.

Last year the Commission issued with its annual report a draft discussion proposal for a statewide planning process, the *Virginia Growth Strategies Act*. The Commission spent most of 1993 meeting with interested parties and considering amendments to the proposal. The Commission received over 100 sets of comments on the draft legislation ranging from comments by interested individuals, to local governments, to associations such as the Chamber of Commerce, and other organizations representing the interests of builders, farmers, environmentalists, local government officials etc. The Commission worked through six different versions of the legislation to reach its final proposal.

Based on all the diverse interests and the comments it received, the Commission significantly revised the draft legislation. The Virginia Growth Strategies Act establishes a **state strategic planning process**. It does not require any changes or review of planning or land use at the local level.

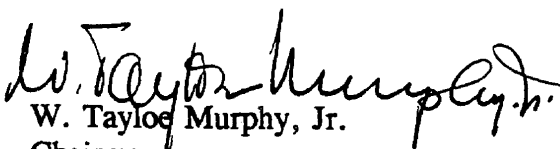
For the first time, on September 29, 1993, the Commission voted on what had been to that date a discussion document. The Commission voted unanimously, with one abstention, to endorse the revised Strategies Act and forward it to the General Assembly. The Act is appended to this report.

To the Honorable George F. Allen, Governor
and the General Assembly of Virginia
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The Commission also voted unanimously to adopt and endorse the recommendations in its report entitled *Virginia Geographic Information Network: Proposal for Legislative Action*. This report has been previously distributed to the General Assembly and its recommendations are summarized in this annual report.

Both the strategic planning act and the geographic information network proposals will strengthen Virginia's ability to respond positively to the future. A planning process is needed to assure that we have both a vision for our future and a way to achieve that vision. We commend this report and our legislative initiatives to you and invite your participation in making them happen.

Sincerely,


W. Taylor Murphy, Jr.
Chairman

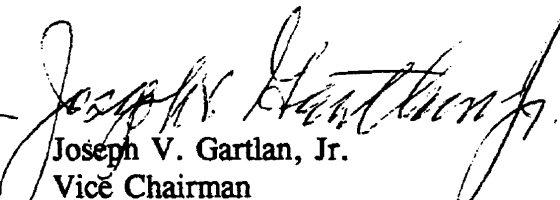

Joseph V. Gartlan, Jr.
Vice Chairman



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EXECUTIVE SUMMARY

History of the Commission

The Virginia General Assembly created the state Commission on Population Growth and Development in 1989 to examine the state's population growth and its effect on the economic, environmental and financial development of the Commonwealth. The Commission has thirty-three (33) members, twenty-three (23) citizen members appointed by the Governor and ten members of the legislature. Delegate W. Tayloe Murphy, Jr. serves as Chairman, and Senator Joseph V. Gartlan, Jr. as Vice Chairman.

The Commission, largely a citizen volunteer effort, is committed to an open, collaborative public process. Initially, in 1991 the Commission held 11 public meetings around the state to learn what citizens, local governments and interest groups considered to be the important problems and opportunities facing the Commonwealth. The Commission's work, particularly the development of recommendations, has been shaped by these comments and by an ongoing public dialogue.

Direction and Focus

Virginia experienced unprecedented growth and change in the past two decades. In ten years, our population grew by 16%, to 6.2 million, and is expected to increase another 2 million by the year 2020.

This growth took place largely along the corridor from Northern Virginia, through Richmond, to the Tidewater area. Many other Virginia communities, including central cities and rural areas, did not experience such expansion. The Commission was charged with looking at the challenges facing both communities that grow quickly and those that may not grow at all.

In response, the Commission developed 12 key planning goals needed to promote economic growth and natural resource protection, in the context of sound fiscal policies. (See State Planning Goals on page 4). The Commission believes that sound strategic planning is essential to accomplish these goals.

State Strategic Planning

The Commission reviewed planning efforts at the local, regional and state levels to see how the planning goals could be realized most effectively. It determined that the most important task was to first "get the state's house in order" by developing strategic planning in state government.

Strategic planning demands that government look at the "big picture" in deciding how to spend the public's money on programs, services and capital projects. Strategic planning requires government agencies to set short and long term priorities and to coordinate these priorities with other agencies. Overall, strategic planning provides a process to give the state a vision for its future and a framework for realizing that vision.

The Commission believes that no successful business the size of the Virginia state government should operate without a strategic plan. The Commission developed the Virginia Growth Strategies Act to implement a state strategic planning process and the companion Virginia Geographic Information Network (VGIN) to provide the information and technological tools needed to plan effectively.

Virginia Growth Strategies Act

The Virginia Growth Strategies Act will establish a state strategic planning process. This planning process will require the preparation, adoption and implementation of the *Virginia Growth Strategies Plan*. The legislation requires improved planning and coordination by specific state agencies. Initially four areas of state government (Secretariats) are directed to cooperatively achieve twelve state planning goals. The four Secretaries are: Commerce and Trade, Finance, Natural Resources, and Transportation.

The plan development process will be coordinated by the Division of Planning, a proposed new division within the existing Department of Planning and Budget. A citizen/legislative advisory group, the Virginia Strategic Planning Advisory Commission, will be established to work with the Division, the Governor and the state agencies to create and implement the Strategic Plan. The Governor will have the final approval authority for the Plan and is designated by the legislation as the "Chief Planning Officer". Currently the Governor is the Chief Budget Officer.

When in place the state planning process, budget, and capital improvements program will implement the goals and objectives of the Strategic Plan.

There is one requirement for local governments in the legislation: the filing of their local comprehensive plan with the Division of Planning and the State Library. This filing of comprehensive plans is for information purposes only. As a result, state agencies will have better access to the strategic plans of localities, and localities will have access, through the state lending library, to the plans of their peers.

Virginia Geographic Information Network (VGIN)

The Virginia Geographic Information Network (VGIN) is a proposal for the state to take a leadership role in establishing a vision for a geographic information system, for setting standards, for creating a GIS management unit, for establishing a network, and for investing in the creation of statewide data layers.

The Commission was asked, among its original charges, to examine the need for statewide data dissemination. In 1992, the Commission received additional funds from the General Assembly to develop a strategy for statewide coordination of a comprehensive data collection system. Early on, the Commission focused on the use of geographic information systems, also known as GIS. GIS is a technology that allows the sharing and use of computerized information about people, places and things that are related to a specific spot on the earth. One of the greatest assets of GIS, and therein its relevance to strategic planning, is its ability to support public policy decision making by testing "what if" scenarios by graphically representing the interaction of complex conditions.

The Commission, in conjunction with the Council on Information Management (CIM) and the assistance of a consultant, PlanGraphics, Inc., spent the last year examining: what information is currently collected in Virginia at the local, regional and state levels; what information should be collected; what other states have undertaken with regard to a statewide data system; and what Virginia should do.

The results of the study have been summarized in a report entitled: *Virginia Geographic Information Network, Proposal for Legislative Action*. The report recommends that the state invest immediately in creating four sets of statewide information for: transportation, hydrography, topography and political boundaries. These data layers would be created through digital orthophotography at a scale of 1:12,000. The study also recommends creation of a GIS management unit, adoption of data standards, and a network approach to information sharing.

It is currently projected that the cost for the first two years of this program will be approximately \$2.9 million: \$1.2 million in the first year and \$1.7 million in the second year. Complete budget figures are located in the Appendix.

THE 12 PLANNING GOALS

§ 2.1-51.6:7

(Taken from the Virginia Growth Strategies Act)

1. Encourage growth that promotes economic opportunity and improves the quality of life for all citizens of the Commonwealth consistent with the Virginia Growth Strategies Plan.
2. Provide incentives that promote and encourage natural resource-based industries, including agriculture, forestry, fishing, mining and recreational tourism.
3. Provide appropriate incentives for economic development in rural areas.
4. Provide appropriate incentives for economic development and redevelopment of urban areas.
5. Determine and develop in an orderly and fiscally responsible manner, infrastructure needed for urban and rural development.
6. Provide a framework for the development and rehabilitation of affordable housing in the Commonwealth.
7. Ensure that water is available to serve the needs of all the people of the Commonwealth and that non-consumptive uses of water are considered and protected.
8. Encourage, consistent with the needs and circumstances of the governmental subdivisions, compact and efficient patterns of development that minimize consumption of land, protect natural resources, enhance mobility of people and goods, promote efficient expenditure of public funds, and reduce resource and energy consumption.
9. Protect the environment and the quality of the Commonwealth's land, water, and air.
10. Conserve and protect open space, scenic and natural areas, recreational areas, unique, endangered, threatened and valuable plant and animal species and their habitats.
11. Protect and enhance the Commonwealth's natural, cultural, and historic resources in order to maintain the Commonwealth's heritage and further its tourist economy.
12. Protect both public and private property interests as established by law.



HISTORY OF THE COMMISSION

Virginia experienced unprecedented growth and change in the past 20 years. Virginia's 1992 population of 6,377,000 placed us twelfth in population in the United States. In the past ten years Virginia grew 15.7 percent a year and was the fifth fastest growing state in the nation. Recently, from 1990 to 1992, Virginia's growth rate was the fourth fastest among states east of the Mississippi River.

Like the nation, Virginia has a high percentage of its citizens living in urban areas. During the 1980's, the state's metropolitan areas grew three times as fast as the non-metropolitan areas. Almost 95 percent of the state's total population increase since 1980 occurred in the 44 localities of the "Urban Crescent".*

During this period of high growth, some areas of the state held steady or actually lost population. The challenge that Virginia faces is developing a strategy that addresses the needs of citizens in the metropolitan portions of Virginia, and those in the rural areas.*

In the early 1980's, Virginians joined with their neighbors in Maryland, Pennsylvania and the District of Columbia to consider the impact of rapid population growth and development on the Chesapeake Bay. In 1987 Virginia signed the Chesapeake Bay Agreement which embodies a cooperative approach to a shared economic and environmental resource. A key commitment in the Agreement was "to plan for and manage the adverse environmental effects of human population growth and land development in the Chesapeake Bay Watershed".

This agreement lead to the creation of the Year 2020 Panel. This panel found that population growth and an increasing per capita consumption of land were having, and will continue to have, a detrimental effect on the water quality

* Virginia Facts and Figures 1993, Department of Economic Development, Commonwealth of Virginia

and living resources of the Bay as well as the quality of life of the region. The Year 2020 Panel also recognized that growth issues reach far beyond the Bay Watershed. The Panel urged each of the states to **establish a commission to promote the preparation and implementation of state-level planning and coordination.**

In 1989, the Virginia General Assembly created the Commission on Population Growth and Development and gave it six legislative charges (Acts of Assembly, 1990, Chapter 833; House Joint Resolution 435, 1989). The Commission originally had nineteen members. Based on its report to the Governor and General Assembly in 1990, the Commission was expanded to thirty-three members to better represent the diversity of state interests. Twenty-three commission members are citizens; ten are members of the General Assembly. Delegate W. Tayloe Murphy, Jr. serves as Chairman and Senator Joseph V. Gartlan, Jr. as Vice Chairman.

The Commission's responsibilities are:

- to study and evaluate the consequences of present and anticipated changes in population and the patterns of development on the economic vitality and environmental health of all regions in the Commonwealth;
- to develop initiatives to ensure that adequate planning, coordination and data dissemination occur at all levels of government in order to guide population growth and development in Virginia, including consideration of the appropriate state, regional and local responsibilities;
- to recommend alternatives for meeting funding requirements of infrastructure improvements and conservation measures that will enhance the Commonwealth's ability to manage its population growth and development;
- to propose innovative and cooperative land management techniques that will accommodate population growth and development;
- to examine and evaluate methods of coordinating activities of the General Assembly and state agencies relating to matters of population growth and development, including consideration of a statewide planning process and the role of the state in such a process; and

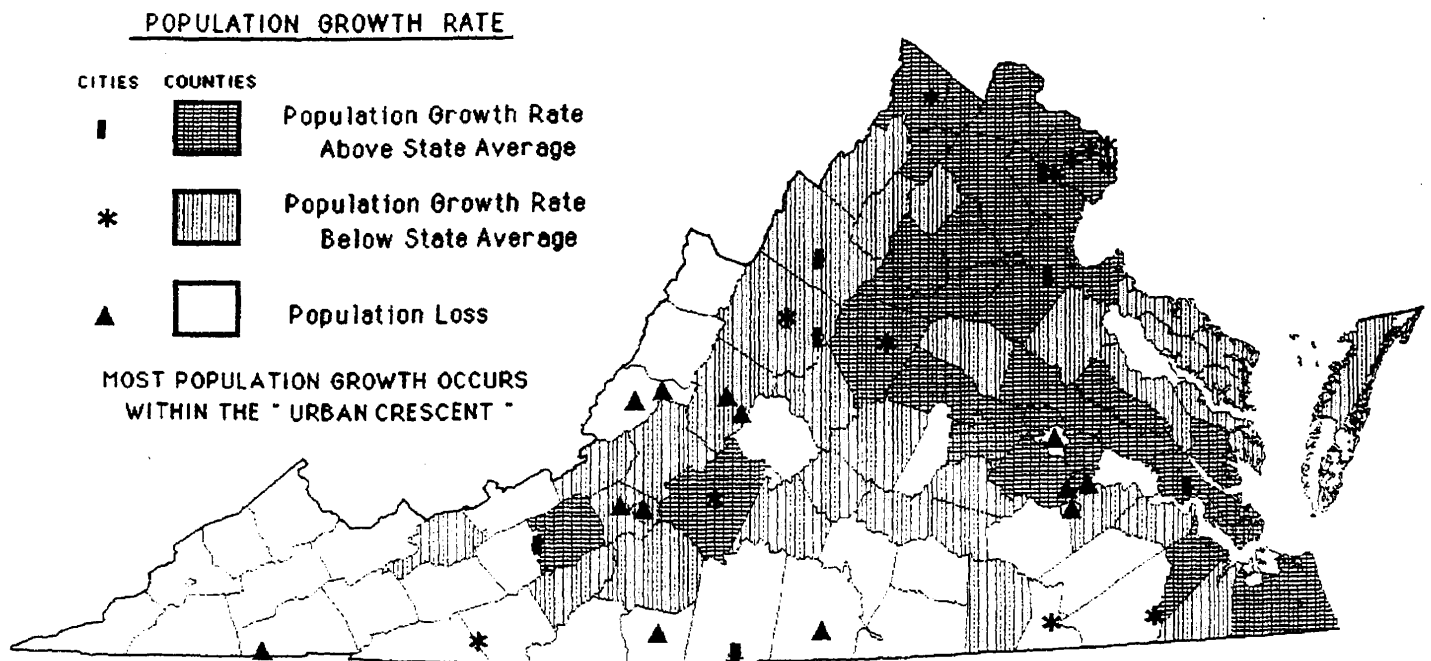
- to report annually its findings and recommendations to the Governor and the General Assembly.

Past reports of the Commission to the General Assembly include:

- ▲ House Document 40, 1990
- ▲ House Document 41, 1992
- ▲ House Document 72, 1993

- ▲ Virginia Geographic Information Network, Proposal for Legislative Action, August 1993

PERCENTAGE CHANGE IN POPULATION BY LOCALITY 1980 - 1990



Data Source: 1980, 1990 Census of Population and Housing
 Prepared By: EcoMAPS OFFICE
 Department of Environmental Quality



VIRGINIA NEEDS A STATE STRATEGIC PLAN

Historically in Virginia, we have built many communities remarkable for their livability and productivity. Our state has prospered and grown greatly in the past years. We have come to recognize in Virginia that a good environment and a good economy are key to the quality of life that has attracted, and will continue to attract, businesses and individuals to our state. A good environment and economy don't happen by accident. Planning is the tool that allows citizens to take control of the destiny of their state. Both growing and declining areas need to take an active role in shaping their future -- and they need a vision and a plan to achieve that vision.

Citizens, businesses, localities and other groups cannot work in a vacuum. Many issues cross jurisdictional or area lines. There needs to be a way to focus on the big picture. Legislation is needed to assure that coordinated planning among state agencies happens, and that agency actions are considered and communicated to the public in a larger framework. Planning is a way to help Virginians deal with change on purpose.

Other groups have recognized the need for planning. In its final report, Measure by Measure, the Commission on the Future of the South noted that in "a world where the rules keep changing right before our eyes, government must change as well". In their recommendations for new approaches to government, they advise that states **develop a strategic plan**.

A strategic plan requires that government set goals, develop a strategy to achieve these goals, and then measure the results over time. Strategic plans set forth a vision of the future and seek to bring about a consensus on the mechanisms and strategies that will be used to attain those goals.

Some states have already adopted state strategic plans, for example: Georgia, Florida, Oregon, Texas, and Maryland, to name a few. A National Association of State Development Agencies 1992 study found that over thirty states had just completed strategic plans, were in the middle of plan development, or were just about to undertake one. Part of the call for strategic planning in these states has risen from the growing public demand for greater efficiency, flexibility and accountability throughout government.

Other groups are calling on the state to plan because of the financial and economic development advantages that the process can support. In another report conducted by the National Association of State Development Agencies for the Virginia Chamber of Commerce, *Virginia Economic Development Competitiveness Study*, five major impediments to Virginia's competitiveness were noted. The first major impediment cited by the report is: "Lack of a comprehensive long-term plan and statewide vision for the state developed through business and citizen participation, support and consensus".

In addition to having a vision, for accountability and the value of strategic planning for economic development, what are the other reasons why Virginia should adopt a strategic plan?

Virginia has been a very desirable state. Our excellent transportation facilities, skilled work force, coastal location adjacent to the nation's Capitol, and our abundant natural, historic and cultural resources have all contributed to our success. These assets are part of a fortunate legacy. But are we doing our best to preserve and build on that legacy - or are changes needed in the way we plan?

The Commission believes that the Commonwealth needs a way to look at the big picture. This is important not only in how we address our natural and economic resources, but it is most critical in determining how we spend the state's diminishing financial resources as well. There is not enough money at either the state or local level to provide for all the programs and services that our citizen expect and want. We need a process to set both short and long term priorities for how we spend the state's money.

Currently in Virginia, the only way we have statewide to set priorities is through the two year budget process. While some individual agencies have strategic plans, they are not tied into a longer term budget process nor are they coordinated with the strategic plans and objectives of other state agencies. There is not a process in place to set across state agencies and secretariat lines broader state goals, benchmarks for achievement of these goals, and a way to have accountability for state agency actions over a longer time period.

Increasingly the federal government is demanding greater coordination in planning and a longer "vision" from states. For example, under the Intermodal Surface Transportation Efficiency Act, the Governor is called upon to be the "chief planning officer" for the state, and the state is supposed to examine its long term transportation needs in light of future growth and development. To meet this mandate, Virginia must have a process that looks not only at transportation, but at economic development, natural resources, and the Commonwealth's financial capacity to deal with change.

The Commission also believes that better planning will save money and time. Certainly a business the size of state government would never consider operating without a strategic plan. And that plan would not be limited to one area or product of the business, but would be as broad as possible.

Why the Virginia Growth Strategies Act is needed:

- A state strategic plan is a "good government measure" that will give Virginia a tool to better deal with change in the future. The capacity of government to anticipate as well as respond to change will be enhanced. *This is a critical element in economic competitiveness.*
- It will help the state set priorities and spend money responsibly.
- A strategic planning process will look at the "big picture" and long term needs. Currently, the state lacks a coherent and coordinated system to guide its investment in infrastructure, institutions and other state facilities and programs. The state also has a fragmented and ad hoc planning effort and a short time horizon for important needs -- the two year budget cycle.
- The Act will correct one of the five major impediments to Virginia's overall competitiveness as noted in a study undertaken by the National Association of State Development Agencies for the Virginia Chamber of Commerce: "Lack of a comprehensive long-term plan and statewide vision for the state developed through business and citizen participation, support and consensus."
- Strategic planning is a standard business tool. The Act does not call for the creation of a large central planning bureaucracy nor infringe on local land use planning but it does provide a means for reconciling the state's own planning activities in a manner that is comparable to methods used by major businesses.
- A state strategic plan will help identify important economic, environmental, historic and cultural, and financial resources, and provide a process for integrating and balancing diverse needs.
- Passage of the Act is supported by a wide range of organizations. See Appendix for a complete list.



SUMMARY OF THE VIRGINIA GROWTH STRATEGIES ACT

The Act requires the development of a state strategic plan that can be used not only by state agencies, but will also provide clear guidance to citizens and the private sector about the state's priorities.

The Plan itself will be focused initially on achieving twelve planning goals (see page 13). The Act calls on four Secretariats - Commerce and Trade, Finance, Natural Resources, and Transportation - to initially create the Plan. Each secretariat and its agencies will submit a draft plan to a citizen/legislative advisory commission. These plans will be formed into the State Growth Strategies Plan -- but only after public review and comment. This public review process includes planning district commission review of the Plan. State agencies, as part of the plan development process, are required to work cooperatively in both creating and implementing the goals and objectives. State agencies are also called upon to identify regional opportunities for solving state problems.

As noted above, in addition to the secretariats and state agencies, the legislation calls for the creation of the "Virginia Strategic Planning Advisory Commission". This is a seventeen member advisory commission with citizen and legislative appointments. The intent of this Commission is to bring diverse interests to the table as well as to provide for additional public involvement and scrutiny. The state planning process will be supported by a Division of Planning (proposed to be created) within the existing Department of Planning and Budget.

The Plan will be meaningful, not just a paper exercise, because measurable objectives, or benchmarks, are required as part of the Plan. The legislation also requires that the state budget process and state capital projects implement the state Plan.

The Governor is designated as the "chief planning officer" by the legislation. The Governor shall approve the Plan no later than December 1997.

The Virginia Growth Strategies Act is focused on "getting the state's house in order". There is only one requirement for local governments, and that is the filing of the local comprehensive plan with the state. This filing is for

informational purposes only. It will create a repository of local comprehensive plans that will be used by state agencies as well as a lending library in the state archives that can be used by other local governments, citizens and the private sector.

The Virginia Growth Strategies Act is summarized further in the Appendix. If adopted, it will provide for accountability, responsibility, direction and consistency in state action.

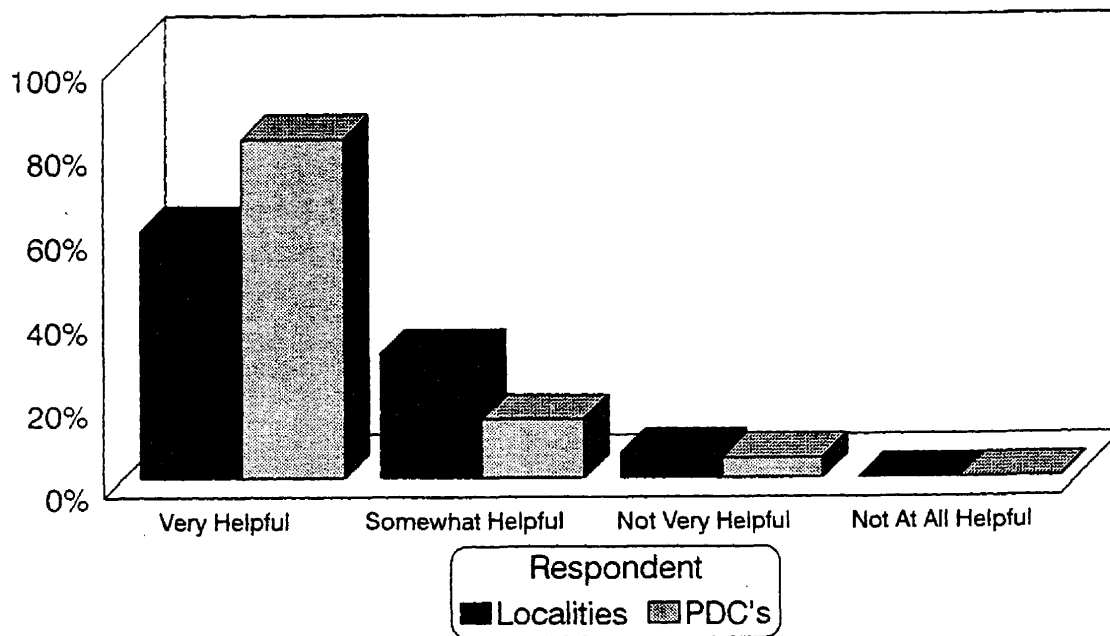


SUMMARY OF THE VIRGINIA GEOGRAPHIC INFORMATION NETWORK

In addition to examining a state planning process, one of the legislative charges given the Commission was to examine the data needs of the Commonwealth. In 1992, the Commission sought and received additional funds from the General Assembly in order to develop a "strategy for the statewide coordination of a comprehensive data collection system". The Commission was directed to work with the Council on Information Management (CIM).

In the fall of 1992, the Commission and CIM engaged the services of a consultant, PlanGraphics, Inc. to: help analyze existing conditions in Virginia (local, regional, state and private sectors), to examine what information was being collected and how, to look at what other states had done, and to develop an action plan for Virginia. The Commission also used the services of Virginia Tech's Center for Survey Research to interview all counties, cities and large towns about their use of, and need for, geographic information.

Helpfulness of a Statewide GIS: Percent of Localities and PDC's Reporting



PlanGraphics, Inc., produced a seventy page report entitled: *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations*. Based on the recommendations outlined in this report, the Commission and CIM produced an executive summary entitled *Virginia Geographic Information Network: Proposal for Legislative Action*. To date this report has been distributed to all members of the General Assembly and to over 1600 other individuals and organizations.

What is GIS ?

Geographic information is information that can be related to a particular place or spot on the Earth. GIS (geographic information systems) is a technology that allows the sharing and use of this information. Another way to define GIS is as a system that relates geographic data (in the form of digital maps) with text and statistical data (computer records about people, places and things) to support operations and decision making. Perhaps GIS's greatest power, and therein its applicability to comprehensive data collection and long range planning, is its ability to support public policy decision making by testing "what if" scenarios and by graphically representing the interaction of complex conditions. It is this capability that has most attracted the interest of the Commission on Population Growth and Development.

Recommendations from the Report

The state must take a leadership role and develop a statewide vision for a geographic information network. Data collection and use are going on now and will continue in the future -- but there is a waste of effort, duplication, lack of coverage of key areas, and lack of access.

The state must adopt a common data model that ties the state, regional and local databases together. The term for this is "multi-scaler" which means that the network should link data created at varying degrees of resolution or spatial accuracy.

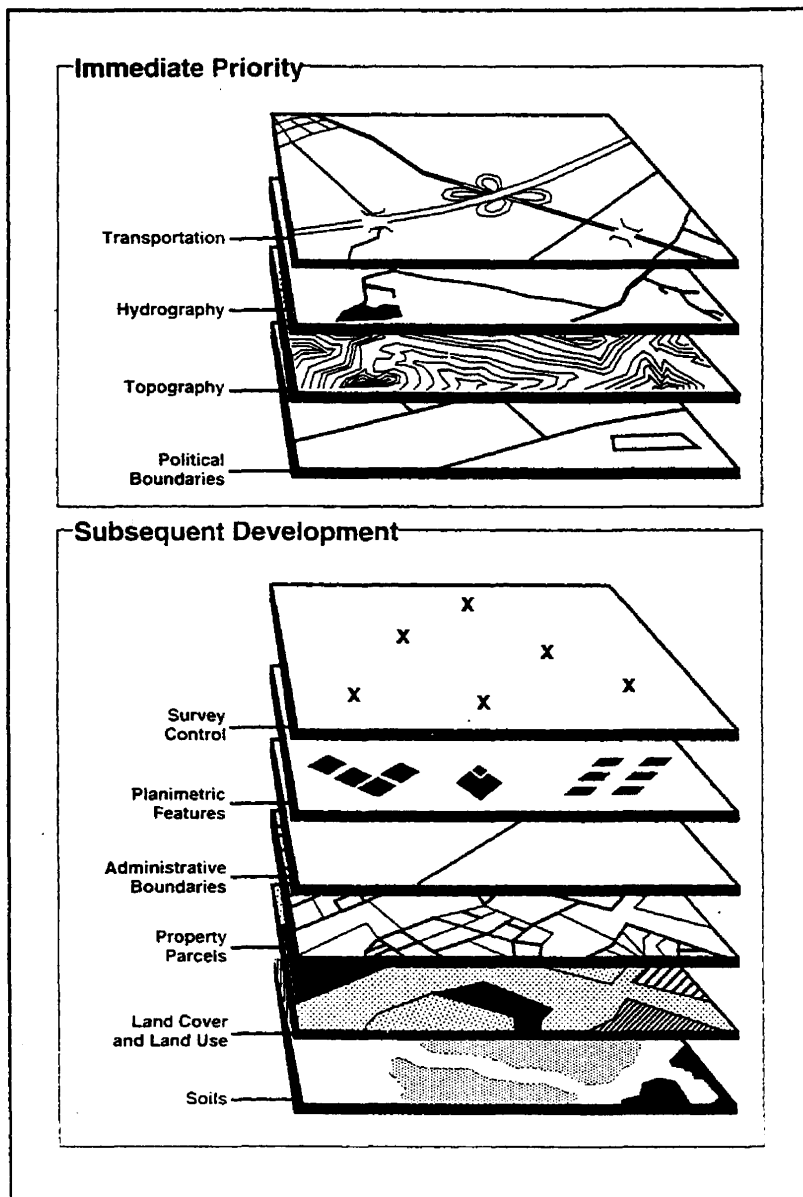
The state should assign top priority to four statewide sets of information. Those data layers recommended as priorities are:

- transportation;
- hydrography;
- topography; and
- political boundaries;

- (the survey control layer [HARN] is almost complete in Virginia).

An investment in these four data layers will benefit the most users in the quickest way. For subsequent development, the Commission recommends:

- planimetric features (these are surface features, such as building outlines);
- administrative boundaries (such as census tracts);
- property parcels;
- land cover and land use; and
- soils.

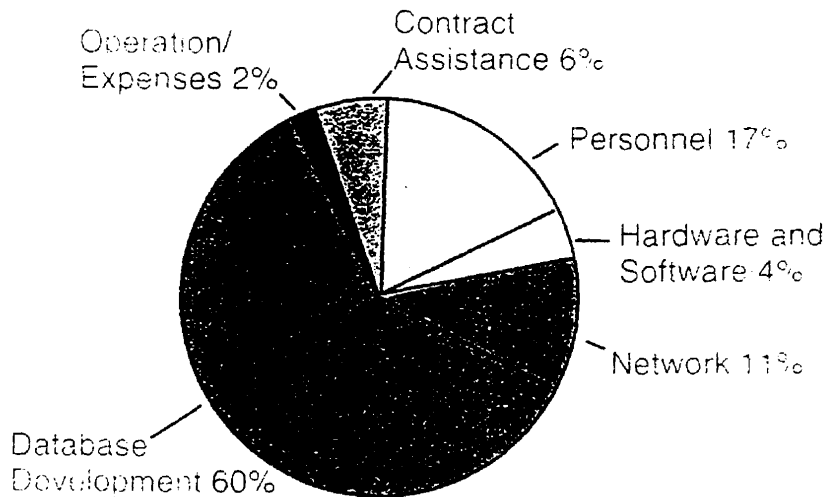


The Commission recommends establishing a statewide mapping program with a common base resolution. This statewide initiative won't replace the need to continue spatial data creation efforts by localities and state-level organizations, but it will provide a reference framework at a suitable accuracy and scale for data transfers and spatial referencing. The recommended statewide base is 1:12,000, based on digital orthophotography.

The Commission recommends that data standards be established. Data standards are critical for the long-term success of Virginia's spatial data strategy and must be created with input from data users around the state. Maintaining compatibility with outside users -- such as the private sector or federal government - must be a component of the Commonwealth's plan.

The Commission recommends that state-level geographic information be shared through a data network. It is not the intent to create a large data base located in Richmond, but to utilize the existing networks and data bases around the Commonwealth. In fact this emphasis on a network is one way to hold down costs.

It is recommended that a focal point for statewide spatial data creation and sharing be established. The consultants termed this the need for a GIS management unit. The consultant and Growth Commission recommend that this unit be placed in the Department of Planning and Budget, once a Division of Planning has been created. In the meantime, CIM can function as the initiators of the Virginia Geographic Information Network. CIM has noted, however, that in the long-term this task needs to be located with the state's planning effort.



Finally, the Commission recommends that the state fund the creation, maintenance and coordination of the state-level data layers. What will it cost? The consultants roughly estimated 2 million dollars a year for four years. Of this money, over two-thirds was earmarked for data creation and contract assistance. CIM has been looking for ways to fine-tune these very general budget figures. While not final, CIM is estimating a first year cost of 1.2 million dollars and a second year cost of 1.7 million dollars. Of these funds, up to a third may be leveraged through federal or privately matched funds.

A five year implementation plan for the network is estimated to cost 7.4 million dollars (again, not all of these monies would be state funds). This number has to be looked at in the context of the \$100 million currently spent in Virginia on data collection at the local, regional and state levels. An investment in a "data infrastructure" for the state will eliminate duplication and save money in the long run.

A few words about why this plan is good for Virginia.

VGIN will benefit local governments. The common data layers will provide benefits to all local governments, regardless of their size or the current status of their GIS efforts. For rural or moderately developing localities, these data layers will help "jump start" their GIS efforts. These layers contain sufficient levels of detail to support applications such as E-911, assessment, tax mapping, etc.

For more urbanized localities, the common data layers can support ongoing GIS applications, check accuracy of local information, fill in information not collected at the local level, and provide a regional context.

VGIN will benefit the state. Without GIS capabilities the Commonwealth will be at a competitive disadvantage with other states and regions. GIS technology is used by other states to promote economic development, meet federally mandated transportation and environmental planning, for crime prevention, and to address other safety and human health issues.

VGIN will benefit other user groups. Marketing and sales professionals, renewable resource managers, utilities, site locators for commercial ventures ... are but a few members of the private sector who could benefit from a state information system.

Legislative Initiatives Required for VGIN

Currently the only legislative initiative proposed for VGIN will be a budget request. For additional information about the project, please read the Council on Information Management's Addendum Brief in the Appendix of this report.

Why Virginia needs to invest in VGIN:

- ***Virginia is behind many other states in this area.*** Other states are already using GIS technology to assist them with economic development, meeting federally mandated transportation and environmental planning, addressing safety, health and human services, educational needs – the list of applications grows daily. About 30 states already have formal state structures to guide the development of GIS. Particularly noteworthy are our neighbors to the southeast, North Carolina, South Carolina and Georgia. They have developed systems to aid their marketing efforts. For example, South Carolina has successfully used GIS to advise prospective businesses on location options.
- Currently several state agencies have and use geographic and other forms of information and spend money on geographic information systems. VGIN would coordinate and build on this existing ad hoc and fragmented system. Through better coordination, investment in specific statewide data layers, and quality control, Virginia can maximize its current investment.
- VGIN would establish a broadly accessible information network with accurate, reliable information that is essential at all levels of government and for the private sector for future development. Specifically:

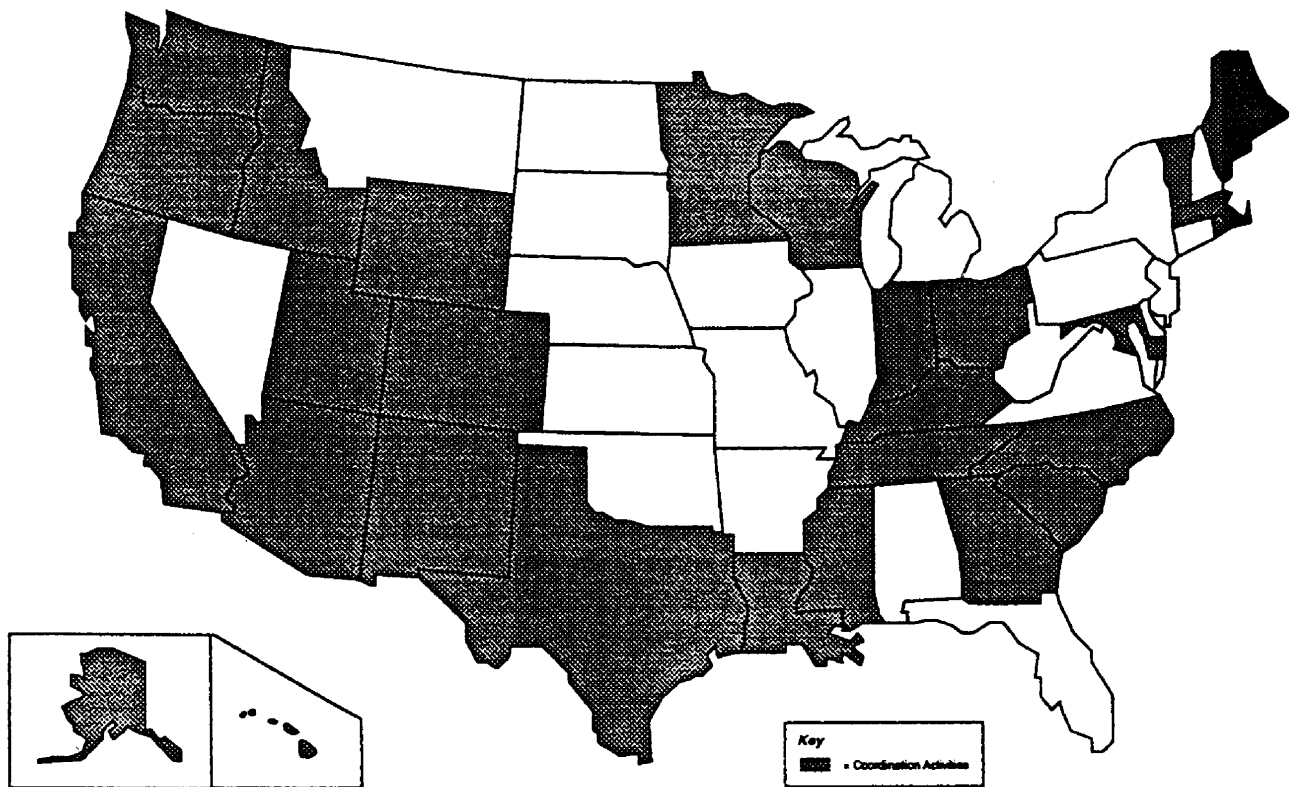
VGIN will benefit local governments: the common data layers will provide benefits to all local governments, regardless of their size or the current status of their GIS efforts. For rural or moderately developing localities, these data layers will help to "jump start" their GIS efforts.

For more urbanized localities, the common data layers can: support ongoing GIS applications, be used to check accuracy of local information, fill in information not collected at the local level, and provide a regional context.

VGIN will benefit the private sector: marketing and sales professionals, renewable resource managers, utilities, site locators for commercial ventures ... these are but a few members of the private sector who could benefit from a state geographic information system.

- Geographic information systems are tools for policy makers to plan smarter.

STATES WITH FORMALLY ADOPTED GIS COORDINATION



The factors which lead individual states to implement a statewide strategy for spatial data are as different as the states themselves.

APPENDIX

- **List of Endorsements for the Legislative Proposals**
- **1993 Meeting Dates of the Commission**
- **Virginia Growth Strategies Act**
- **Council on Information Management's Addendum Brief on the Virginia Geographic Information Network**
- **Survey of Centralized Planning Efforts of State Governments**

February 2, 1994

WRITTEN ENDORSEMENTS

SUPPORT FOR VIRGINIA GROWTH STRATEGIES ACT

- **Arlington County Board of Supervisors**
- **Chesapeake Bay Foundation**
- **Citizens Committee on Land Use and Transportation**
- **Fairfax Federation of Citizens Associations, The**
- **Hampton Roads Planning District Commission**
- **League of Women Voters of Virginia**
- **Loudoun County Board of Supervisors**
- **Lower James River Association**
- **Middle Peninsula Planning District Commission**
- **Northern Virginia Planning District Commission**
- **Piedmont Environmental Council**
- **Rural Planning Caucus of Virginia**
- **Virginia Association of Counties**
- **Virginia Chapter of the American Planning Association**
- **Virginia Environmental Network:**
 - **American Lung Association of Northern Virginia**
 - **Audubon Naturalist Society**
 - **Chesapeake Bay Foundation**
 - **Clean Water Action**
 - **Conservation Council of Virginia**
 - **Friends of the Rivers of Virginia**
 - **Garden Club of Virginia**
 - **Lower James River Association**
 - **Piedmont Environmental Council**
 - **Preservation Alliance of Virginia**
 - **Sierra Club, Virginia Chapter**
 - **Southern Environmental Law Center**
 - **Valley Concerned Citizens**
 - **Virginia Audubon Council**
 - **Virginia Native Plant Society**

SUPPORT FOR THE VIRGINIA GEOGRAPHIC INFORMATION NETWORK (VGIN)

- **Advisory Committee on Mapping, Surveying and Land Information Systems**
- **Chesapeake Bay Foundation**
- **Fairfax Federation of Citizens Associations, The**
- **Fifth Planning District Commission**
- **Hampton Roads Planning District Commission**
- **League of Women Voters of Virginia**
- **Loudoun County Board of Supervisors**
- **Lower James River Association**
- **Middle Peninsula Planning District Commission**
- **New River Valley Planning District Commission**
- **Piedmont Environmental Council**
- **Virginia Association of Counties**
- **Virginia Association of Planning District Commissions**
- **Virginia Association of Realtors (announced 1/24/94)**
- **Virginia Chamber of Commerce**
- **Virginia Chapter of the American Planning Association**
- **Virginia Environmental Network:**
 - **American Lung Association of Northern Virginia**
 - **Audubon Naturalist Society**
 - **Chesapeake Bay Foundation**
 - **Clean Water Action**
 - **Conservation Council of Virginia**
 - **Friends of the Rivers of Virginia**
 - **Garden Club of Virginia**
 - **Lower James River Association**
 - **Piedmont Environmental Council**
 - **Preservation Alliance of Virginia**
 - **Sierra Club, Virginia Chapter**
 - **Southern Environmental Law Center**
 - **Valley Concerned Citizens**
 - **Virginia Audubon Council**
 - **Virginia Native Plant Society**
- **Virginia Municipal League**
- **Virginia Power**

COMMISSION ON POPULATION GROWTH & DEVELOPMENT

Meeting Dates

January 14, 1993	Commission Meeting
January 14, 1993	Executive Committee Meeting
February 10, 1993	Executive Committee Meeting
March 2, 1993	Comprehensive Data Project Meeting
March 16, 1993	Comprehensive Data Project Meeting
March 17, 1993	Commission Meeting
May 17, 1993	Comprehensive Data Project Meeting
May 19, 1993	Executive Committee Meeting
June 28, 1993	Commission Meeting with Virginia Chamber of Commerce
July 21, 1993	Comprehensive Data Project Meeting
July 22, 1993	Executive Committee Meeting
August 2, 1993	Commission Meeting with Virginia Environmental Network
August 4, 1993	Comprehensive Data Project Meeting
August 5-6, 1993	Commission Meeting
August 22-23, 1993	Drafting/Executive Committee Meeting
September 8, 1993	Comprehensive Data Project Meeting
September 28, 1993	Drafting/Executive Committee Meeting
September 29, 1993	Commission Meeting
November 15, 1993	Commission Meeting/Public Information Session

1994 SESSION

LD6931376

HOUSE BILL NO. 1068

Offered January 25, 1994

A BILL to amend and reenact §§ 2.1-1.9, 2.1-387, 2.1-388, 2.1-391, 2.1-394, 2.1-394.1, 2.1-398, 2.1-399, 2.1-399.1, 9-6.25:1, and 42.1-1 of the Code of Virginia and to amend the Code of Virginia by adding in Title 2.1 a chapter numbered 5.01, consisting of sections numbered 2.1-51.6:4 through 2.1-51.6:15, and a section numbered 2.1-389.1, relating to a Division of Planning within the Department of Planning and Budget, a State Planning Library and the Virginia Growth Strategies Act.

Patrons—Murphy, Bennett, Callahan, Clement, Cohen, Connally, Copeland, Croshaw, Cunningham, Darner, Davies, DeBoer, Deeds, Dickinson, Forbes, Grayson, Hall, Harris, Howell, Jackson, Jones, J.C., Keating, Kidd, Kilgore, Mayer, Morgan, Moss, Parrish, Phillips, Plum, Puller, Robinson, Scott, Shuler, Spruill, Stump, Van Landingham, Van Yahres and Watkins; Senators: Calhoun, Gartlan, Hawkins, Marye, Potts, Reasor and Waddell

Referred to Committee on General Laws

Be it enacted by the General Assembly of Virginia:

1. That §§ 2.1-1.9, 2.1-387, 2.1-388, 2.1-391, 2.1-394, 2.1-394.1, 2.1-398, 2.1-399, 2.1-399.1, 9-6.25:1, and 42.1-1 of the Code of Virginia are amended and reenacted and that the Code of Virginia is amended by adding in Title 2.1 a chapter numbered 5.01, consisting of sections numbered 2.1-51.6:4 through 2.1-51.6:15 and a section numbered 2.1-389.1 as follows:

§ 2.1-1.9. Commissions.

Notwithstanding the definition for "commission" as provided in § 2.1-1.2, the following entities shall be referred to as commissions:

Commission on Local Government

Marine Resources Commission

Milk Commission

Virginia Commission for the Arts

Virginia Employment Commission.

Virginia Strategic Planning Advisory Commission.

CHAPTER 5.01.

VIRGINIA GROWTH STRATEGIES ACT.

Article 1.

General Provisions.

§ 2.1-51.6:4. Short title.

This chapter shall be known and may be cited as the "Virginia Growth Strategies Act."

§ 2.1-51.6:5. Declaration of legislative intent.

The economic welfare of the Commonwealth, the health of its natural resources and the adequacy of its infrastructure, including but not limited to transportation, will be promoted by long-range strategic planning. Therefore, it is the intent of the General Assembly to develop a state planning process to achieve these objectives. In order to achieve the goals set forth in this chapter, this planning process is created for the following purposes: (i) to promote coordination between state and federal programs; (ii) to achieve consistency in the development and implementation of state programs; and (iii) to provide information, guidance and support to local and regional planning efforts.

§ 2.1-51.6:6. Definitions.

As used in this chapter, the words and terms listed below mean:

"Affordable housing" means a sanitary and safe dwelling that is available for sale or rental to persons and families of low and moderate income as provided for in Chapter 1.2 (§ 36-55.24 et seq.) of Title 36 for less than one-third of their gross monthly income.

"Commission" means the Virginia Strategic Planning Advisory Commission.

1 *"Department" means the Department of Planning and Budget.*

2 *"Division" or "Division of Planning" means the Division of Planning within the*
3 *Department of Planning and Budget.*

4 *"Goals" means the planning goals set forth in § 2.1-51.6:7.*

5 *"Governmental subdivision" means the counties, cities and towns of this*
6 *Commonwealth.*

7 *"Infrastructure" means the basic facilities needed for the growth and functioning of the*
8 *Commonwealth or a governmental subdivision in the state, including but not limited to*
9 *storm water, water, sewage and solid waste disposal, utilities, communications,*
10 *transportation facilities, schools, parks and public safety.*

11 *"Major state project" means the acquisition of land for any state facility (facility*
12 *includes highways, as defined in Title 46.2, constructed by the Commonwealth and*
13 *Arlington and Henrico Counties), the construction of any facility, or expansion of an*
14 *existing facility which is hereafter undertaken by any state agency, board, or commission,*
15 *authority or any branch of state government, including state-supported institutions of*
16 *higher learning, which requires an environmental impact report. For the purposes of this*
17 *chapter, "authority" shall not include any industrial development authority created*
18 *pursuant to the provisions of Chapter 33 (§ 15.1-1373 et seq.) of Title 15.1 or Chapter 643,*
19 *as amended, of the 1964 Acts of Assembly nor shall authority include any housing*
20 *development or redevelopment authority established pursuant to state law. For the*
21 *purposes of this chapter, "branch of state government" shall not include any county, city*
22 *or town of the Commonwealth.*

23 *"Open space" means any land, water, submerged land, marshes, or similar properties*
24 *which are provided for, preserved for or used for: (i) park or recreational purposes; (ii)*
25 *conservation of land or other natural resources; (iii) cultural or scenic purposes; or (iv)*
26 *assistance in the shaping of the character, direction, and timing of community*
27 *development.*

28 *"Plan" means the Virginia Growth Strategies Plan.*

29 *"Political subdivisions" means the governmental subdivisions as defined in this section,*
30 *sanitary, sanitation and transportation districts, authorities and other such public bodies*
31 *created under the laws of this Commonwealth.*

32 *"Public review" means a period of time in which written comments, or other*
33 *requirements as established by the Governor, shall be submitted. Unless otherwise*
34 *indicated, public review in the context of this chapter shall not refer to the public hearing*
35 *requirements in § 9-6.14:7.1.*

36 *§ 2.1-51.6:7. Planning goals.*

37 *The planning goals of the Commonwealth are to:*

38 *1. Encourage growth that promotes economic opportunity and improves the quality of*
39 *life for all citizens of the Commonwealth consistent with the Virginia Growth Strategies*
40 *Plan.*

41 *2. Provide incentives that promote and encourage natural resource-based industries,*
42 *including agriculture, forestry, fishing, mining and recreational tourism.*

43 *3. Provide appropriate incentives for economic development in rural areas.*

44 *4. Provide appropriate incentives for economic development and redevelopment of*
45 *urban areas.*

46 *5. Determine and develop in an orderly and fiscally responsible manner, infrastructure*
47 *needed for urban and rural development.*

48 *6. Provide a framework for the development and rehabilitation of affordable housing in*
49 *the Commonwealth.*

50 *7. Ensure that water is available to serve the needs of all the people of the*
51 *Commonwealth and that nonconsumptive uses of water are considered and protected.*

52 *8. Encourage, consistent with the needs and circumstances of the governmental*
53 *subdivisions, compact and efficient patterns of development that minimize consumption of*
54 *land, protect natural resources, enhance mobility of people and goods, promote efficient*

1 *expenditure of public funds, and reduce resource and energy consumption.*

2 *9. Protect the environment and the quality of the Commonwealth's land, water, and*
3 *air.*

4 *10. Conserve and protect open space, scenic and natural areas, recreational areas, and*
5 *endangered, unique and threatened plant and animal species and their habitats.*

6 *11. Protect and enhance the Commonwealth's natural, cultural, and historic resources*
7 *in order to maintain the Commonwealth's heritage and further its tourist economy.*

8 *12. Protect both public and private property interests as established by law.*

9 *§ 2.1-51.6:8. Virginia Growth Strategies Plan.*

10 *The Governor shall prepare and implement a growth strategies plan for the*
11 *Commonwealth which implements the legislative intent and goals of this chapter. In*
12 *developing this Plan, the Governor shall consult with the Virginia Strategic Planning*
13 *Advisory Commission created pursuant to § 2.1-51.6:14. Thereafter, pursuant to public*
14 *notice, the Plan shall be circulated for public review and comment. The Plan shall be*
15 *known as the Virginia Growth Strategies Plan.*

16 *§ 2.1-51.6:9. Contents and implementation of the Plan.*

17 *The Plan shall include: (i) plan elements; (ii) measurable and quantifiable objectives; (iii)*
18 *regional approaches; (iv) interagency approaches; and (v) an implementation strategy.*

19 *A. Plan elements. - The Plan shall contain but not be limited to the following plan*
20 *elements: (i) an assessment of the Commonwealth's existing infrastructure including*
21 *transportation networks, water supply and treatment facilities, sewerage systems and*
22 *wastewater treatment systems, and solid waste management disposal facilities, and the*
23 *extent to which additions or improvements will be needed to accommodate anticipated*
24 *population and economic growth; (ii) economic development strategies that include an*
25 *inventory and assessment of the Commonwealth's economic base, labor force*
26 *characteristics, affordable housing characteristics and economic development opportunities*
27 *and resources, including the development of economically disadvantaged areas and*
28 *redevelopment of urban areas; and a determination of what can be done to support*
29 *retention and expansion of existing businesses and attract new businesses and industries*
30 *consistent with other Plan elements and the goals; (iii) protection strategies for the*
31 *Commonwealth's natural, historic and living resources that are consistent with other Plan*
32 *elements and the goals and that are based on the identification of resources including*
33 *groundwater supply, coastal resources, river watersheds, flood plains, major park,*
34 *recreation and conservation areas, historic resources, wetlands and state-owned lands; and*
35 *(iv) strategies to support and maintain the viability of agricultural and forestal activities*
36 *through specific programs that include measures to protect unique and prime agricultural*
37 *and forestal lands.*

38 *B. Measurable objectives. - The Plan shall establish measurable and quantifiable*
39 *objectives that state agencies shall use in the development of their programs to achieve*
40 *the goals both in the short term (four-year planning horizon) and long-term (twenty-year*
41 *planning horizon).*

42 *C. Regional approaches. - The Plan shall identify and promote opportunities to employ*
43 *regional strategies to achieve the goals by encouraging the development of regional*
44 *solutions.*

45 *D. Agency coordination. - The Plan shall establish a process for achieving interagency*
46 *coordination of programs to ensure the collective responsibility for and achievement of the*
47 *goals in the most efficient and cost-effective manner. To the extent that other federal and*
48 *state agency plans exist, the Governor shall identify inconsistencies and, insofar as is*
49 *practical, conform these documents to the Plan.*

50 *E. Implementation strategy. - The Plan shall contain a complete and comprehensive*
51 *strategy for its implementation that merges and coordinates the elements set forth in*
52 *subsections A, B and C and the goals. The four-year implementation strategy shall include*
53 *a description of specific initiatives or programs, public or private, to be put in place in*
54 *the four- and twenty-year planning horizon, including cost estimates and necessary and*

1 *alternative funding sources, where applicable, and a description of administrative systems,*
2 *regulatory measures or incentive programs recommended to be adopted or amended.*

3 *§ 2.1-51.6:10. Adherence to the Plan.*

4 *The Commonwealth and its agencies shall adhere to the Plan to: (i) achieve the goals*
5 *of the Commonwealth; (ii) ensure consistency among and between state agencies; and (iii)*
6 *encourage coordination among the political subdivisions of the Commonwealth.*

7 *§ 2.1-51.6:11. Procedure for developing the Plan.*

8 *A. The four Secretaries (Finance, Transportation, Natural Resources and Commerce and*
9 *Trade) shall on behalf of the Governor, work cooperatively together and in conjunction*
10 *with the Virginia Strategic Planning Advisory Commission, to prepare and implement the*
11 *Virginia Growth Strategies Plan.*

12 *B. Prior to developing the Plan, the Division of Planning shall develop, with the*
13 *assistance of the Commission, administrative guidelines for creation of the Plan in order to*
14 *implement the provisions of this chapter in a timely and consistent manner. These*
15 *guidelines shall include, but not be limited to: the process for developing the Plan*
16 *cooperatively; the studies, inventories and surveys that will be prepared to support the*
17 *implementation of the goals; and a work plan and schedule for producing the Plan.*

18 *C. These guidelines shall be used by the Secretaries in preparation of the initial*
19 *elements of the Plan. The Secretaries shall prepare initial plans for the agencies under*
20 *their secretariat in order to ensure that all functions of each agency that relate to the*
21 *goals are addressed.*

22 *D. The Secretaries may request to meet and confer with the Division of Planning as*
23 *needed during their process.*

24 *E. The four Secretaries shall submit their plan(s) to the Division of Planning.*

25 *F. The Division of Planning shall forward the draft Plan to the planning district*
26 *commissions and the Commission for review and comment.*

27 *G. The Division of Planning shall review all comments and revise the Plan as*
28 *necessary. Thereafter, the draft Plan shall be circulated for public review and comment by*
29 *the Commission.*

30 *H. The Governor shall consider all comments and make such changes as deemed*
31 *appropriate to the Plan.*

32 *I. The Governor shall approve the initial Plan by December 20, 1997, and shall submit*
33 *the Plan to the General Assembly with the budget bill and report its implementation.*

34 *J. The Plan shall be reviewed by the Governor by December 20, 1999, and every four*
35 *years thereafter, and be amended as necessary to achieve the goals. The Commission shall*
36 *review and comment on amendments proposed to the Plan. Proposed amendments shall be*
37 *made available for public review and comment prior to incorporation in the Plan.*

38 *§ 2.1-51.6:12. Filing of local comprehensive plans.*

39 *Every county and city and every town with a population of 3,500 or more shall file,*
40 *on or before December 1, 1994, its local comprehensive plan with the Department of*
41 *Planning and Budget's Division of Planning and the Virginia State Library. Towns with a*
42 *population under 3,500 are encouraged to file. The provisions of this section shall apply to*
43 *any amendment to the local comprehensive plan that is adopted by the county, city, or*
44 *town and shall be filed with the Department of Planning and Budget's Division of*
45 *Planning and the Virginia State Library, within sixty days after adoption by the local*
46 *governing body.*

47 *§ 2.1-51.6:13. Duties of Department acting through its Division of Planning.*

48 *The Department, acting through its Division of Planning, shall:*

49 *1. Assist the Governor in the development and adoption of the Virginia Growth*
50 *Strategies Plan.*

51 *2. Provide staff support to the Virginia Strategic Advisory Commission.*

52 *3. Collect and analyze data in the Commonwealth with regard to: demographics;*
53 *infrastructure; land use and land development patterns; air and water quality; economic*
54 *development, including but not limited to an inventory of resource-based industries and an*

1 inventory of natural, cultural and historic resources, open space, and other areas relating
2 to the goals. The Division shall also develop short- and long-term analyses and projections
3 of future trends and conditions in the Commonwealth.

4 4. Coordinate preparation of the Commonwealth's capital improvements and long-term
5 infrastructure needs and assessments for the Commonwealth and its governmental
6 subdivisions.

7 5. Evaluate and report to the Governor and the Commission on progress and problems
8 in implementing the Plan.

9 6. Advise the Governor on proposed legislative and budgetary initiatives which
10 significantly affect the Plan.

11 7. Distribute copies of the Plan to state agencies and governmental subdivisions.

12 After June 30, 1995, the Division, in addition to the preceding duties shall:

13 8. Provide technical assistance to planning district commissions and governmental
14 subdivisions including providing from the Commonwealth's records information concerning
15 demographics and natural, cultural and historic resources.

16 9. Provide professional, technical, and grant assistance to, and cooperate with, any
17 planning agency, planning district commission, service district, or governmental subdivision
18 engaged in the preparation of development plans and programs.

19 10. Develop and maintain the Commonwealth's comprehensive data network.

20 11. Review and approve all substate district system boundaries established or proposed
21 for establishment by state agencies.

22 12. Promote regional planning.

23 13. After the Plan has been approved by the Governor, develop a process, in
24 conjunction with the Commission, to review: (i) the effect of the Plan on governmental
25 subdivisions and (ii) the effect of the local plans on the achievement of the
26 Commonwealth's goals and objectives as set forth in the Plan. This process shall occur at
27 least once every four years during the regular review of and revision to the Plan. The
28 Division shall report its findings and recommendations to the Governor and General
29 Assembly.

30 § 2.1-51.6:14. Virginia Strategic Planning Advisory Commission.

31 A. There is hereby created the Virginia Strategic Planning Advisory Commission,
32 hereinafter referred to as the Commission. The Commission shall be composed of seventeen
33 members: three members from the House of Delegates, one of whom shall be a member of
34 the House Appropriations Committee, to be appointed by the Speaker of the House; three
35 members from the Senate, one of whom shall be a member of the Senate Finance
36 Committee, to be appointed by the Senate Committee on Privileges and Elections; and
37 eleven citizen members to be appointed by the Governor. The citizen members shall
38 include local government officials and individuals reflecting the different regions and
39 diverse interests of the Commonwealth such as agriculture, forestry, business, community
40 development, environmental protection, finance, real estate, and mining. All appointments
41 shall be made by November 1, 1994.

42 B. Of the citizen members first appointed, four shall be appointed for a term of two
43 years, four shall be appointed for a term of four years and three shall be appointed for a
44 term of six years. Thereafter, all citizen members shall be appointed for terms of six years
45 each, except that appointments to fill vacancies shall be made for the unexpired terms.
46 Legislative members shall serve coincident with their terms of office. No person shall be
47 eligible to serve more than two successive six-year terms; but after the expiration of a
48 term of two years or less, or after the expiration of the remainder of a term to which
49 appointed to fill a vacancy, two additional six-year terms may be served by such a
50 member.

51 C. The Commission shall meet at least four times a year and at the call of the
52 Governor. The first meeting of the Commission shall be held no later than sixty days after
53 the appointment of all its members, at which time the Commission shall elect a chairman
54 and vice chairman from its citizen membership to serve for two-year terms. Successive

1 *chairmen and vice chairmen shall be elected for two-year terms.*

2 *§ 2.1-51.6:15. Duties of Virginia Strategic Planning Advisory Commission.*

3 *The Commission shall:*

4 *1. Assist and advise the Governor and the Department of Planning and Budget in*
5 *developing and implementing the Virginia Growth Strategies Plan.*

6 *2. Assist the Division of Planning in developing administrative guidelines for the initial*
7 *development of the Plan.*

8 *3. Develop and implement a program to educate the public about the Plan*
9 *development process and solicit comments on the draft Plan.*

10 *4. Periodically review planning procedures and relationships between the*
11 *Commonwealth and its governmental subdivisions and recommend to the Governor and*
12 *the General Assembly methods of strengthening cooperation between them.*

13 *5. Recommend to the Governor and the General Assembly administrative or legislative*
14 *actions that advance the purposes of the Virginia Growth Strategies Act.*

15 *6. Recommend to the Governor alternatives to meet the funding requirements of*
16 *infrastructure improvements and conservation measures which will enhance the*
17 *Commonwealth's ability to accommodate its population and development.*

18 *7. Propose innovative and cooperative land management techniques that will*
19 *accommodate anticipated population growth and development and will protect the*
20 *Commonwealth's natural resources and environment.*

21 *§ 2.1-387. Chief planning and budget officer; deputy.*

22 *The Governor shall be the chief planning officer and the chief budget officer of the*
23 *Commonwealth. As the chief planning officer, the Governor shall be responsible for*
24 *developing the Virginia Growth Strategies Plan to implement Chapter 5.01 of this title. As*
25 *the chief budget officer, the Governor shall certify that the budget is in conformance with*
26 *the Plan when the biennial budget is submitted to the General Assembly.*

27 *§ 2.1-388. Department of Planning and Budget created; appointment of Director.*

28 *There is hereby created, a Department of Planning and Budget with a Division of*
29 *Planning and a Division of Budget. The Department shall be headed by a Director who*
30 *shall be appointed by and serve at the pleasure of the Governor.*

31 *§ 2.1-389.1. Duties of Division of Planning.*

32 *The Division of Planning shall implement and carry out the duties imposed on the*
33 *Department by Chapter 5.01 of this title.*

34 *§ 2.1-391. Duties of ~~Department~~ Division of Budget.*

35 *The ~~Department~~ Division of Budget shall have the following duties:*

36 *1. Development and direction of an integrated fiscal policy analysis, ~~planning,~~ and*
37 *budgeting process within state government.*

38 *2. ~~Review and approval of all sub-state district systems boundaries established or~~*
39 *~~proposed for establishment by state agencies.~~*

40 *3.2. Formulation of an executive budget as required in this chapter. In implementing*
41 *this provision, the ~~Department of Planning and~~ Division of Budget shall utilize the*
42 *resources and determine the manner of participation of any executive agency as the*
43 *Governor may determine necessary to support an efficient and effective budget process*
44 *notwithstanding any contrary provision of law.*

45 *4.3. Conduct of policy analysis and program evaluation for the Governor.*

46 *5.4. Continuous review of the activities of state government focusing on budget*
47 *requirements in the context of the goals and objectives determined by the Governor and*
48 *the General Assembly and monitoring the progress of agencies in achieving goals and*
49 *objectives.*

50 *6.5. Operation of a system of budgetary execution to ~~assure~~ensure that agency activities*
51 *are conducted within fund limitations provided in the ~~appropriations~~appropriation act and*
52 *in accordance with gubernatorial and legislative intent.*

53 *7.6. Development and operation of a system of standardized reports of program and*
54 *financial performance for management.*

1 8-7. Coordination of statistical data by reviewing, analyzing, monitoring, and evaluating
2 statistical data developed and used by state agencies and by receiving statistical data from
3 outside sources, such as research institutes and the federal government.

4 9-8. Assessment of the impact of federal funds on state government by reviewing,
5 analyzing, monitoring, and evaluating the federal budget, as well as solicitations,
6 applications, and awards for federal financial aid programs on behalf of state agencies.

7 10-9. Review and verification of the accuracy of agency estimates of receipts from
8 donations, gifts or other nongeneral fund revenue.

9 § 2.1-394. Estimates by state agencies of amounts needed.

10 A. Biennially in the odd-numbered years, on a date established by the Governor, each
11 of the several state agencies and other agencies and undertakings receiving or asking
12 financial aid from the Commonwealth shall report to the Governor, through the responsible
13 secretary designated by statute or executive order, in a format prescribed for such purpose,
14 an estimate in itemized form showing the amount needed for each year of the ensuing
15 biennial period beginning with the first day of July thereafter. *Requests for financial aid*
16 *for major state projects, as defined in § 2.1-51.6:6, shall be accompanied by a certified*
17 *statement that such projects are consistent with the Virginia Growth Strategies Plan. The*
18 *Governor may certify that a project is of overriding state interest and not subject to the*
19 *preceding provision. Such a notice shall be sent for information purposes to the local*
20 *government(s) affected by the Governor's finding. The Governor may prescribe targets*
21 *which shall not be exceeded in the official estimate of each agency; however, an agency*
22 *may submit to the Governor a request for an amount exceeding the target as an addendum*
23 *to its official budget estimate.*

24 B. Each agency or undertaking required to submit a biennial estimate pursuant to
25 subsection A of this section shall simultaneously submit an estimate of the amount which
26 will be needed for the two succeeding biennial periods beginning July 1 of the third year
27 following the year in which the report is submitted.

28 C. The format which must be used in making these reports shall be prescribed by the
29 Governor, shall be uniform for all agencies and shall clearly designate the kind of
30 information to be given thereon. The Governor may prescribe a different format for
31 reports from institutions of higher education, which format shall be uniform for all such
32 institutions and shall clearly designate the kind of information to be provided thereon.

33 § 2.1-394.1. Estimates by nonstate agencies of amounts needed.

34 A. Except as provided in §§ 10.1-812 through 10.1-814, no state funds shall be
35 appropriated or expended for, or to, nonstate agencies unless:

36 1. A request for state aid is filed by the organization with the ~~Department of Planning~~
37 ~~and Division of Budget~~, as required by § 2.1-394.

38 2. ~~Such~~The nonstate agency shall certify to the satisfaction of the ~~Department~~~~Division of~~
39 ~~Budget~~ that matching funds are available in cash from local or private sources in an
40 amount at least equal to the amount of the request. These matching funds must be
41 concurrent with the purpose for which state funds are requested. Contributions received
42 and spent prior to the state grant shall not be considered in satisfying the requirements of
43 this subdivision.

44 3. ~~Such~~The nonstate agency shall provide documentation of its tax exempt status under
45 applicable provisions of the United States Internal Revenue Code.

46 B. Except as provided in §§ 23-38.11 through 23-38.18, no state funds shall be
47 appropriated to, or expended for, a private institution of higher education or religious
48 organization.

49 C. Requests for the appropriation of funds for nonstate agencies shall be considered by
50 the Governor and the General Assembly only in even-numbered years.

51 D. For the purposes of this section, a "nonstate agency" shall ~~mean~~~~means~~ any public or
52 private foundation, authority, institute, museum, corporation or similar organization which is
53 not a unit of state government or a political subdivision of the Commonwealth as
54 established by general law or special act. It shall not mean any such entity which receives

1 state funds as a subgrantee of a state agency or through a state grant-in-aid program
2 authorized by law.

3 § 2.1-398. Submission of budget to General Assembly.

4 On or before December 20 in the year immediately prior to the beginning of each
5 regular session held in an even-numbered year of the General Assembly, the Governor
6 shall submit to the presiding officer of each house printed copies of a budget, based on his
7 own conclusions and judgment, containing the following:

8 1. A statement of historical and projected trends which influence development, natural
9 and human resources, and general economic conditions in the Commonwealth, and
10 projections pertaining to population, transportation, commerce, agriculture, and urbanization.
11 In addition to utilizing such statement in the preparation of his budget, the Governor shall
12 use such statement for the purpose of coordinating programs of planning district
13 commissions, regional development authorities, and local governments with those of state
14 agencies *and to disclose how the Virginia Growth Strategies Plan is being implemented in*
15 *the budget.*

16 2. A statement of the Governor's proposed goals, objectives, and policies in the areas of:

17 ~~(a)~~a. Administration of justice;

18 ~~(b)~~b. Education, including intellectual and cultural development;

19 ~~(c)~~c. Individual and family services;

20 ~~(d)~~d. Resources and economic development, including specific references to economic
21 development and management of natural resources;

22 ~~(e)~~e. Transportation; and

23 ~~(f)~~f. General government, including therein or as separate categories areas of multiple
24 impact, such as telecommunications, energy, and urban development.

25 3. A statement organized by function, primary agency, and proposed appropriation item
26 which sets forth:

27 ~~(a)~~a. Identification of common programs and services;

28 ~~(b)~~b. Service attainments or lack of attainments and service terminations or reductions
29 for the biennium;

30 ~~(c)~~c. Major goals and objectives for programs;

31 ~~(d)~~d. Program measures to be used in monitoring and evaluating services as specified
32 in the general ~~appropriations~~ *appropriation* act; and

33 ~~(e)~~e. The amount of each primary agency's budget that is direct aid to localities.

34 4. An "executive salary plan" recommending levels into which the position of each
35 cabinet secretary and administrative head of each agency and institution of the executive
36 branch of state government should be placed for salary purposes, salary ranges for each of
37 those recommended levels, and the basis for the recommendations contained in the plan.

38 5. A statement of proposed capital appropriations organized by the primary agency that
39 sets forth the program need for the project and the proposed source of funding.

40 § 2.1-399. Budget Bill.

41 A. On or before December 20 of the year immediately prior to the beginning of each
42 regular session held in an even-numbered year of the General Assembly, the Governor also
43 shall submit to the presiding officer of each house of the General Assembly, at the same
44 time he submits his budget, copies of a tentative bill for all proposed appropriations of the
45 budget, for each year in the ensuing biennial appropriation period, which shall be known
46 as "The Budget Bill." "The Budget Bill" *shall reference the Virginia Growth Strategies*
47 *Plan;* shall be organized by function, primary agency, and proposed appropriation item; and
48 shall include an identification of, and authorization for, common programs and the
49 appropriation of funds according to programs. Except as expressly provided in an
50 appropriation act, whenever the amounts in a schedule for a single appropriation item are
51 shown in two or more lines, the portions of the total amount shown on separate lines are
52 for information purposes only and are not limiting. No such bill shall contain any
53 appropriation the expenditure of which is contingent upon the receipt of revenues in excess
54 of funds unconditionally appropriated. The salary proposed for payment for the position of

1 each cabinet secretary and administrative head of each agency of the executive branch of
2 state government shall be specified in "The Budget Bill."

3 B. On or before December 20 of the year immediately prior to the beginning of each
4 regular session held in an odd-numbered year of the General Assembly, the Governor shall
5 submit to the presiding officer of each house printed copies of all gubernatorial
6 amendments proposed to the general appropriation act adopted in the immediately
7 preceding even-numbered year session.

8 § 2.1-399.1. Capital projects.

9 A. On or before December 20 of the year immediately prior to the beginning of each
10 regular session held in an even-numbered year of the General Assembly, the Governor
11 shall submit to the presiding officer of each house of the General Assembly copies of any
12 tentative bill or bills involving proposed capital appropriations for each year in the ensuing
13 biennial appropriation period. *Each of such capital appropriations shall be consistent with*
14 *and implement, when appropriate, the Virginia Growth Strategies Plan.* Such bill or bills
15 shall include each capital project to be financed through revenue bonds or other debt
16 issuance, *specify* the amount of each such project, and identify the entity which will issue
17 such debt.

18 B. On or before December 20 of the year immediately prior to the beginning of each
19 regular session held in an odd-numbered year of the General Assembly, the Governor shall
20 submit to the presiding officer of each house printed copies of all gubernatorial
21 amendments proposed to capital appropriations acts adopted in the immediately preceding
22 even-numbered year session.

23 C. The Governor shall ensure that a summary of budget highlights be sent to a
24 newspaper of general circulation in the following geographical areas of the Commonwealth:
25 Northern Virginia, Hampton Roads, Richmond/Petersburg, Central Virginia, Shenandoah
26 Valley, Roanoke Valley, Southside, and Southwest Virginia prior to the convening of such
27 session of the General Assembly.

28 D. The standing committees of the House of Delegates and of the Senate in charge of
29 appropriation measures shall hold four regional public hearings on ~~the budget bill~~*The*
30 *Budget Bill* submitted by the Governor. The four public hearings shall be held prior to the
31 convening of such session of the General Assembly, at hearing sites and times as selected
32 by the chairmen of the two committees.

33 § 9-6.25:1. Advisory boards, commissions and councils.

34 There shall be, in addition to such others as may be designated in accordance with §
35 9-6.25, the following advisory boards, commissions and councils within the executive branch:

- 36 Advisory Board for the Department for the Deaf and Hard-of-Hearing
- 37 Advisory Board for the Department for the Aging
- 38 Advisory Board on Child Abuse and Neglect
- 39 Advisory Board on Medicare and Medicaid
- 40 Advisory Board on Occupational Therapy
- 41 Advisory Board on Physical Therapy to the Board of Medicine
- 42 Advisory Board on Respiratory Therapy to the Board of Medicine
- 43 Advisory Board on Teacher Education and Licensure
- 44 Advisory Council on Revenue Estimates
- 45 Advisory Council on the Virginia Business-Education Partnership Program
- 46 Appomattox State Scenic River Advisory Board
- 47 Aquaculture Advisory Board
- 48 Art and Architectural Review Board
- 49 (Effective until July 1, 1994) Board for the Visually Handicapped
- 50 Board of Directors, Virginia Truck and Ornamentals Research Station
- 51 Board of Forestry
- 52 Board of Military Affairs
- 53 (Effective until July 1, 1994) Board of Rehabilitative Services
- 54 Board of Transportation Safety

Board of Trustees of the Family and Children's Trust Fund
Board of Visitors, Gunston Hall Plantation
Board on Veterans' Affairs
Catoctin Creek State Scenic River Advisory Board
Cave Board
Chickahominy State Scenic River Advisory Board
Clinch Scenic River Advisory Board
Coal Surface Mining Reclamation Fund Advisory Board
Council on Indians
Council on the Status of Women
Emergency Medical Services Advisory Board
Falls of the James Committee
Film Office Advisory Board
Forensic Science Advisory Board
Goose Creek Scenic River Advisory Board
Governor's Council on Alcohol and Drug Abuse Problems
Governor's Mined Land Reclamation Advisory Committee
Hemophilia Advisory Board
Human Services Information and Referral Advisory Council
Industrial Development Services Advisory Board
Interagency Coordinating Council on Housing for the Disabled
Interdepartmental Board of the State Department of Minority Business Enterprise
Laboratory Services Advisory Board
Local Advisory Board to the Blue Ridge Community College
Local Advisory Board to the Central Virginia Community College
Local Advisory Board to the Dabney S. Lancaster Community College
Local Advisory Board to the Danville Community College
Local Advisory Board to the Eastern Shore Community College
Local Advisory Board to the Germanna Community College
Local Advisory Board to the J. Sargeant Reynolds Community College
Local Advisory Board to the John Tyler Community College
Local Advisory Board to the Lord Fairfax Community College
Local Advisory Board to the Mountain Empire Community College
Local Advisory Board to the New River Community College
Local Advisory Board to the Northern Virginia Community College
Local Advisory Board to the Patrick Henry Community College
Local Advisory Board to the Paul D. Camp Community College
Local Advisory Board to the Piedmont Virginia Community College
Local Advisory Board to the Rappahannock Community College
Local Advisory Board to the Southwest Virginia Community College
Local Advisory Board to the Thomas Nelson Community College
Local Advisory Board to the Tidewater Community College
Local Advisory Board to the Virginia Highlands Community College
Local Advisory Board to the Virginia Western Community College
Local Advisory Board to the Wytheville Community College
Long-Term Care Council
Maternal and Child Health Council
Medical Advisory Board, Department of Motor Vehicles
Medical Board of the Virginia Retirement System
Migrant and Seasonal Farmworkers Board
Motor Vehicle Dealer's Advisory Board
Nottoway State Scenic River Advisory Board
Personnel Advisory Board
Plant Pollination Advisory Board

- 1 Private College Advisory Board
- 2 (Effective July 1, 1994) Private Enterprise Commission
- 3 Private Security Services Advisory Board
- 4 Psychiatric Advisory Board
- 5 Radiation Advisory Board
- 6 Rappahannock Scenic River Advisory Board
- 7 Recreational Fishing Advisory Board, Virginia
- 8 Reforestation Board
- 9 Retirement System Review Board
- 10 Rockfish State Scenic River Advisory Board
- 11 Shenandoah State Scenic River Advisory Board
- 12 Small Business Advisory Board
- 13 Small Business Environmental Compliance Advisory Board
- 14 St. Mary's Scenic River Advisory Committee
- 15 State Advisory Board on Air Pollution
- 16 State Advisory Board for the Virginia Employment Commission
- 17 State Building Code Technical Review Board
- 18 State Council on Local Debt
- 19 State Health Benefits Advisory Council
- 20 State Insurance Advisory Board
- 21 State Land Evaluation Advisory Council
- 22 State Networking Users Advisory Board
- 23 State Public Records Advisory Council
- 24 Staunton Scenic River Advisory Committee
- 25 Telecommunications Relay Service Advisory Board
- 26 Tourism and Travel Services Advisory Board
- 27 Toxic Substances Advisory Board
- 28 Virginia Advisory Commission on Intergovernmental Relations
- 29 Virginia Advisory Council for Adult Education and Literacy
- 30 (For effective date - See Editor's note) Virginia Board on Physical Fitness and Sports
- 31 Virginia Coal Research and Development Advisory Board
- 32 Virginia Commission for the Arts
- 33 Virginia Commission on the Bicentennial of the United States Constitution
- 34 Virginia Council on Coordinating Prevention
- 35 Virginia Equal Employment Opportunity Council
- 36 Virginia Interagency Coordinating Council
- 37 Virginia Military Advisory Council
- 38 Virginia Mine Safety Board
- 39 Virginia Public Buildings Board
- 40 Virginia Recycling Markets Development Council
- 41 *Virginia Strategic Planning Advisory Commission*
- 42 Virginia Transplant Council
- 43 Virginia Water Resources Research Center, Statewide Advisory Board
- 44 Virginia Winegrowers Advisory Board.

45 § 42.1-1. Virginia State Library and Archives.

46 The Virginia State Library, which is hereby declared an educational institution and an
 47 institution of learning, shall be continued and shall hereafter be known as the Virginia
 48 State Library and Archives. The Virginia State Library and Archives shall be the library
 49 agency of the Commonwealth, the archival agency of the Commonwealth, and the reference
 50 library at the seat of government. It shall have the following powers and duties:

51 ~~(1)~~ 1. [Repealed.]

52 ~~(2)~~ 2. To accept gifts, bequests and endowments for the purposes which fall within the
 53 general legal powers and duties of the State Library and Archives. Unless otherwise
 54 specified by the donor or legator, the Library and Archives may either accept both the

1 principal and interest of any gift or bequest or may invest such sums as the Board deems
2 advisable, with the consent of the State Treasurer, in securities in which sinking funds may
3 be invested. The Library and Archives shall be deemed to be an institution of higher
4 education within the meaning of § 23-9.2;

5 ~~(3)~~3. To purchase and maintain a general collection of books, periodicals, newspapers,
6 maps, films, audiovisual materials and other materials for the use of the people of the
7 Commonwealth as a means for the promotion of knowledge within the Commonwealth. The
8 scope of the Library and Archives' collections shall be determined by the Library Board on
9 recommendation of the State Librarian, and, in making these decisions, the Board and
10 Librarian shall take into account the book collections of public libraries and college and
11 university libraries throughout the Commonwealth and the availability of such collections to
12 the general public. The Board shall make available for circulation to libraries or to the
13 public such of its materials as it deems advisable;

14 ~~(4)~~4. To give assistance, advice and counsel to other agencies of the Commonwealth
15 maintaining libraries and special reference collections as to the best means of establishing
16 and administering such libraries and collections. It may establish in the State Library and
17 Archives a union catalogue of all books, pamphlets and other materials owned and used for
18 reference purposes by all other agencies of the Commonwealth and of all books, pamphlets
19 and other materials maintained by libraries in the Commonwealth which are of interest to
20 the people of the whole Commonwealth;

21 ~~(5)~~5. To fix reasonable penalties for damage to or failure to return any book, periodical
22 or other material owned by the Library and Archives, or for violation of any rule or
23 regulation concerning the use of books, periodicals, and other materials in custody of the
24 Library and Archives;

25 ~~(6)~~6. To give direction, assistance and counsel to all libraries in the Commonwealth, to
26 all communities which may propose to establish libraries, and to all persons interested in
27 public libraries, as to means of establishment and administration of such libraries, selection
28 of books, retrieval systems, cataloguing, maintenance, and other details of library
29 management, and to conduct such inspections as are necessary;

30 ~~(7)~~7. To engage in such activities in aid of city, county, town, regional and other public
31 libraries as will serve to develop the library system of the Commonwealth;

32 ~~(8)~~8. To administer and distribute state and federal library funds in accordance with
33 law and its own regulations to the city, county, town and regional libraries of the
34 Commonwealth; and

35 ~~(9)~~9. To enter into contracts with other states or regions or districts for the purpose of
36 providing cooperative library services; and

37 *10. To establish a State Planning Library, with the assistance of the Department of*
38 *Planning and Budget, Division of Planning, to be a repository for all planning documents*
39 *of the Commonwealth and its governmental subdivisions.*

40 Wherever in this title and the Code of Virginia the terms "State Library" or "Library"
41 appear referring to the Virginia State Library, they shall mean the Virginia State Library
42 and Archives.

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Council on Information Management

Addendum Brief

Addendum No. 101 (Revised 11/15/93) Virginia Geographic Information Network (VGIN) Implementation

Proposed Project

This addendum is for funding for the first phase of a five year effort to create the common geographic information data required to support the development of integrated, shared geographic information system (GIS) applications needed to support the business of government and many private sector organizations. The funds requested will be used for contractor services for the detailed database design, geographic data acquisition and the development of Virginia's highest priority common geographic data layers needed by most GIS applications.

Anticipated Results

This phase will complete the data definition and database design for the common data layers for the statewide, regional and local tiers of the VGIN data model recommended in the *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report prepared by PlanGraphics, Inc. for the Virginia Commission on Population Growth and Development. This phase will complete approximately 45% of the statewide development of the digital orthophoto quarter quad (DOQQ) softcopy images and approximately 20% of the statewide vector priority common layers.

This effort creates the foundation geographic referenced information infrastructure in a statewide sharable format, that in many cases represents 40-50 percent of the development costs for GIS applications. The provision of these layers will promote the development of such high profile applications as: E-911, emergency/natural disaster response, economic development, regional transportation planning, environmental protection, natural resources preservation, crime and accident analysis, water conservation, and communicable disease tracking and management.

The potential clients to be served by this effort include some 39 federal agencies, all secretarial areas within state government (40 or more specific agencies identified in the CIM's 1990 report), 96 counties, 41 cities, 180 towns, 21 planning district commissions, and an unknown number of private sector organizations.

It is estimated that these layers when fully developed will meet approximately 90 percent of basemap informational needs of state agencies and planning district commissions. The first phase of this project will provide 20% of those common data layers, with an additional three (3) years required to complete the remaining areas of the state. It is also estimated that these layers can be used by most local governments as the foundations to build GIS applications that support an estimated 25-30% of their planning and operational needs. During the development in this phase of the project, the DOQQ softcopy images and vector common data layers can be immediately put to use by counties, cities and towns as soon as their complete jurisdiction is developed.

Consequences If Not Funded

It has been estimated that Virginia governmental organizations spend in excess of \$100 million per year creating, updating, and using maps. Leadership by the state to develop and maintain a common geographic information base will provide strategic direction, promote data sharing, eliminate duplicate development efforts, and support widespread development of automated geographic information systems. The net result of not funding this effort at this time will be the continued widespread acquisition and development of the base geographic information in an uncoordinated, program specific manner that will result in redundant activities and waste of scarce funds at all levels of government in the Commonwealth.

Without statewide GIS capabilities, the Commonwealth and its localities are at a competitive disadvantage relative to other states and their respective cities and counties. With states competing with one another for new, ecologically sound industry, there is yet another "war between the states" in our country. The winners of this war will be those states which can most effectively market their resources, tax incentives, labor pool, and transportation infrastructure. Many states in the southeast have already begun concerted efforts to develop spatial data systems at the state level to help win this war. Failure to begin the data development process and formally establish a state strategy for GIS development could leave the Commonwealth severely disadvantaged with competing with the surrounding states in this economic development war.

Absent leadership by state-level government, the more than \$100 million investments made each year in geographic information collection and use will occur outside an environment that promotes data sharing. The net result will be lost opportunity, redundant activities, and waste.

Summary Table

Dollars	General	Nongeneral	Total
FY 95	\$1,201,702	0	\$1,201,702
FY 96	\$1,700,442	0	\$1,700,442
TOTAL	\$2,902,144	0	\$2,902,144

FTE Positions

FY 95	0	0	0
FY 96	0	0	0

FTE Wage Positions

FY 95	0	0	0
FY 96	0	0	0

Programs/Subprograms Affected

Information Systems Management and Direction (7110000)
 Other Services (7119900)

Council on Information Management

Addendum Request Justification

Addendum No. 101 (Revised 11/15/93) Virginia Geographic Information Network (VGIN) Implementation

Proposed Services

This proposed project is for first phase of a five-year effort for the creation of the common geographic information data that can be used by all levels of government in the Commonwealth and potentially by a number of private sector organizations. The common geographic data layers to be developed include:

- Transportation
- Hydrography (standing and moving water)
- Topography (contours)
- Political Boundaries

This phase will complete the data definition and database design for the common data layers for the statewide, regional and local tiers of the VGIN data model recommended in the *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report prepared by PlanGraphics, Inc. for the Virginia Commission on Population Growth and Development. This phase will also include a detailed analysis, requirements definition and general design for the modernization of Virginia's title records, which will be used to fully define the minimum requirements for the local tier of the VGIN data model. This phase will complete approximately 45% of the statewide development of the digital orthophoto quarter quad (DOQQ) softcopy images and approximately 20% of the statewide vector priority common layers to be developed at the 1:12,000 scale. Subsequent phases will require approximately two years to complete the statewide DOQQ softcopy images and three years to complete the statewide vector priority common layers.

Benefits Provided

VGIN will provide the foundation for a number of GIS applications, including: E-911, emergency/natural disaster response, economic development, regional transportation planning, environmental protection, natural resources preservation, crime and accident analysis, water conservation, and communicable disease tracking and management.

The use of GIS capabilities is proving to be a competitive advantage in marketing state resources in support of economic development. South Carolina's use of this technology in attracting the BMW plant will have multi-million dollar impacts on their economy for many years to come. Many other states in the southeast are using or developing geographic information systems to support economic development activities and expand their existing tax base. Can Virginia afford to be the last state in this region to develop statewide GIS capabilities?

All Secretarial Areas in State Government Will Benefit From This Project

Under the *Secretary of Natural Resources*, the benefits of GIS technology are manifest. As the largest user of spatial data by secretarial area, Natural Resources has benefited from the majority of cooperative funding programs offered through federal agencies. With the proliferation of regulatory programs governing ground and surface water, solid waste, and air, natural resource agencies could not hope to comply with reporting requirements without GIS technology.

Transportation agencies, such as the Virginia Department of Transportation will benefit from implementing the VGIN through better access to data maintained by localities. Parcel-specific data (e.g., ownership, assessed evaluation) helps VDOT make informed decisions about right-of-way acquisition before detailed design. Creating a state-level repository for common data sets will enhance VDOT's access to data sets such as soils, wetlands, and protected sites which have direct impact on transportation corridor studies. Additionally, these data sets could serve as the common planning basis for most of the Federally mandated programs in the Intermodal Surface Transportation Efficiency Act.

The ability to more quickly access parcel data will also improve the services provided by *Finance*. The Department of Taxation has one of the largest collections of paper maps in the state. They cannot keep a current inventory of all taxable parcels for such purposes as equalization, but through an enhanced spatial data network, the ability to find tax data on short notice will dramatically improve. This capability might allow them (as well as many other agencies) to continue to provide mission services without hiring additional staff.

Education will benefit through the integration of data communications among its institutions of higher education. The Virginia Institute of Marine Science and the Information Support Systems Laboratory group at Virginia Polytechnic Institute and State University are two of the major creators of digital data in the Commonwealth.

Public Safety agencies will benefit from the enhanced availability of appropriate maps and sharable geographic data to address multi-jurisdictional efforts, applications and concerns. Law enforcement agencies throughout the country are making use of spatial information systems to track accident locations, drug sales, and to enhance crime analysis capabilities. One of the exemplary systems in the country for drug tracking has been successfully implemented by the City of Pittsburgh; some officials have noted their system costs might be justified through that one technology application alone.

Health and Human Resources agencies will benefit from the VGIN network through enhanced access to their field offices. In their regulatory capacity, the Department of Health must approve a number of septic system sitings and well locations. Currently working from paper maps with no way of relating one map sheet to another, a coordinated network would provide enhanced access to important information before permits are issued.

Agencies under the *Secretary of Commerce and Trade* will benefit from the VGIN in a number of ways. The Department of Agriculture and Consumer Services tracks such diverse phenomena as animal diseases and gypsy moth infestation patterns. GIS will support those activities and many more, such as routing of inspectors to restaurants and defining the boundaries of drought stricken crop areas.

The Department of Economic Development would benefit from access to demographic information, assessed valuation, land use, transportation corridors, and other data to insure that Virginia is on a level playing field with other states who are automating data to "woo" new industry. The ability to attract new industry and replacement firms to help offset the potential of loss of up to 80,000 defense industry-related jobs is vital to the Commonwealth.

Under the *Secretary of Administration*, the Department of General Services will benefit from enhanced access to data, particularly state owned parcel-specific data, to ensure more informed decisions can be made when property is acquired, leased, or disposed of.

Local Government and Planning District Commission Identified Benefits

Participants at four focus group meeting held throughout the Commonwealth during 1993, identified a number of benefits which would be realized by localities and Planning District Commissions if a statewide spatial data network were achieved. Some of the identified benefits are as follows:

- cost sharing opportunities
- enhanced access to land records
- better understanding of the impacts of actions on adjacent governmental units
- increased knowledge of available data
- enhanced analytical capabilities
- real-time situation assessment and tactical planning
- elimination of duplication
- improved data consistency and confidence in the data
- provide a competitive edge in economic development and environmental resource management
- improved decision support capabilities
- enhanced disaster response, planning, and management capabilities
- improved relationships between state and local governments

Related Legislative/Executive Directives

The 1992 General Assembly directed the Commission on Population Growth and Development, in conjunction with the Council on Information Management, to study the creation of a statewide data network. Funds for that directive were used to procure consulting services that produced the August 1993, *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report prepared by PlanGraphics, Inc. for the Commission on Population and Development.

In 1989, the General Assembly directed the Council on Information Management to study the use of *geographic and biological land-use information or mapping systems developed or operated by agencies and institutions of the Commonwealth*. The Council on Information Management published its Final Report on *Geographic and Biological Land-Use Information and Mapping Systems Study* in October, 1990.

Both of these efforts resulted in key recommendations to develop common sharable geographic information layers for use at all levels of government in Virginia.

Relationship to CIM Budget Functions & Activities

The development of statewide geographic information systems (GIS) capabilities provides strategic direction for planning purposes, promotes the development and sharing of information, and encourages the cost effective use of information technology resources to support the business of government in a multi-agency, multi-government environment. This relates to the Council's # 1 base budget function (Planning and Policy Development) and is mandated by § 2.1-563.31 of the Code of Virginia. This also relates to the CIM's # 4 base budget function (GIS Support) and is GIS specified in § 2.1-563-32 of the Code of Virginia.

Overview of the Recommended VGIN Multi-Tier Data Model

Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations report recommends the adoption of a multi-tiered data model as a means of organizing, prioritizing, developing and sharing geographic referenced data that will meet the needs of all levels of government in Virginia. This model can accommodate requirements from

the most detailed information (parcel or engineering level data) needed to support the business of local government to more general information that can be displayed on a map of the entire Commonwealth. The VGIN multi-tier data model consists of three tiers; statewide, regional, and local. Each of the tiers represent a range of levels of detail and accuracy, with the local tier being the most detailed and the statewide tier being the least detailed.

The local tier will contain very detailed information and will normally be developed by local governments. Activities associated with this tier include tracking property ownership, tax assessment, facilities management, engineering design operations, infrastructure management, and detailed environmental impact studies.

The regional tier will provide map data appropriate for viewing and performing analyses over multiple localities. This data is less detailed than the data in the local tier and will be used to support such activities as environmental permit reviews; county highway mapping; transportation planning, demographic analysis; economic development studies; emergency preparedness planning and response; and many other state, regional and local applications.

The statewide tier is designed to meet the needs of activities that require an overview of the entire state. The data in this tier is general in nature and will depict such things as political and administrative boundaries, the major transportation networks, and other major locational reference features (such as national parks and military reservations).

Each tier will contain multiple information layers, with each layer consisting of a set of related map features and a set of attribute data elements that describe values or characteristics of the map features. All data layers in a tier are designated as either common data layers or agency-specific data layers. Common data layers are those which are needed routinely by multiple organizations. Agency-specific layers are not normally shared with others and are the specific responsibility of a particular organization. This distinction between common and agency-specific spatial information also provides a framework for assigning responsibility for "custodianship" or responsibilities for ongoing maintenance and distribution. Common layers need to be accessible by all users, and a framework must be put in place so that common data layers will be updated as needed and provided to users. The following Common Data Layers table shows the designated common data layers for the statewide and regional tiers of the VGIN and the recommended responsible state agencies.

**Virginia Geographic Information Network (VGIN)
Common Data Layers**

<u>LAYERS</u>	<u>RESPONSIBLE STATE AGENCY</u>
Survey control	Dept. of Transportation
Planimetric features	GIS Management Unit
Transportation Layers	
• Roads & Streets	Dept. of Transportation
• Railroads	Dept. of Rail & Public Trans.
• Misc. Transportation Features	Dept. of Transportation
Hydrography	Dept. of Environmental Quality
Topography	Dept. of Mines, Minerals & Energy
Political boundaries	GIS Management Unit
Administrative boundaries	GIS Management Unit
Land Cover/Land Use	GIS Management Unit
Soils	Dept. of Conservation & Recreation

Clients To Be Served

The potential clients to be served by developing the proposed common geographic information layers for the regional and statewide tiers of the VGIN data model touch some 39 federal agencies, all secretarial areas within state government (40 or more specific agencies identified in the CIM's 1990 report), 96 counties, 41 cities, 180 towns, 21 planning district commissions, and an unknown number of private sector organizations.

The phased development of these layers will provide direction for automating much of the manual geographic information being collected by state agencies, and serve as an incentive for developing agency and program specific GIS applications. The Summary of GIS Map Layer Importance tables on the following pages show the relative importance of the common layers to those state agencies interviewed as part of PlanGraphics consulting contract with the Commission on Population Growth and Development.

The following table shows the common data sets needed by localities and planning district commissions and indicates some of the application areas these data sets can support:

Common Data Sets Needed by Localities and PDCs

	Survey Control	Planimetric Features	Transportation	Hydrography	Topography	Political Boundaries	Administrative Boundaries	Parcels	Land Covered/Land Use	Soils
Zoning	√	√	√	√		√	√	√		√
Land Use Planning	√	√	√	√	√	√	√	√	√	
Census Analysis			√	√		√	√			
Transportation	√	√	√	√	√	√	√	√	√	√
Infrastructure	√	√	√	√	√	√	√	√		
Economic Development		√	√	√		√	√	√	√	√
Facility Site Selection	√	√	√	√	√	√	√	√	√	√
Viewshed Analysis		√	√	√	√	√	√	√	√	
Parks and Open Space		√	√	√	√	√	√	√	√	√
Social Services			√			√	√	√		

Source: August 1993, Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations Report

Summary of GIS Map Layer Importance

		State Agencies											Non-State Agencies											
		Department of Agriculture and Consumer Services	Department of Air Pollution Control	Department of Conservation and Recreation	Department of Economic Development	Department of Education	Department of Emergency Services	Department of Forestry	Department of Game and Inland Fisheries	Department of Health	Department of Historic Resources	Department of Mines, Minerals, and Energy	Department of Taxation	Department of Transportation	Department of Waste Management	Division of Legislative Automated Services	Marine Resources Commission	Department of Environmental Quality	Virginia Institute of Marine Science	Localities	Planning District Commissions	Federal Government	Private Sector	
Map Layers	Business Areas																							
Transportation Features	Roads and highways, ROWs, railroads, and other transportation-related features.	●	●	○								○	○	○			●	●	●	●	●	○		
Floodplains	Areas identified as flood-prone, including 100-year and 500-year floodplain boundaries.		●				●						●	●		●	●	●	●	●	●	●	●	●
Well Locations	Point features indicating the locations of wells, including water, gas, oil, etc.		●						●				○	●	●					●	●	●	●	●
Environmental Features	Areas of environmental significance, such as sensitive natural areas, wildlife habitats, etc.		●	●				●					●	●	●		●	●	●	●	●	●	●	●
Soils	Soils groups or associations and soil unit boundaries.	●	●				●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Incidents/Point Features	Point features of various types, including hazardous waste locations, pollutant point sources, water quality sampling points, permit sites, etc.	●	●	●	●		●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Historic/Archaeological Sites	Designated historic, cultural, or archaeological sites.			●	●						●									●	●	●	●	●
Recreational Facilities	Areas designated as parks or recreational sites, including public and private sport sites, playing fields, golf courses, trails, beaches, camping areas, etc.			●	●				●				○	●						●	●	●	●	●
Biological Distributions	Areas and points indicating locations and distributions of endangered species, both animals and plants.									●			●	●		●	●	●	●	●	●	●	●	●
Demography	Areas describing characteristics of the population, including population density, income, age, etc.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Meteorological Information	Map areas, isolines, or points depicting weather phenomena and average conditions, including temperature contours (isotherms), rainfall contours (isohyets), or other weather information.	●																						

Legend

- High Importance
- Moderate Importance

Source: August 1993, Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations Report

Portion of Need Addressed

The first phase of the project will not be able to fully support all of the potential clients mentioned because it will not complete the development of these layers on a statewide basis. However, the funding of this phase and the commitment to develop these statewide common layers will permit a phased development by geographic area within the state and a corresponding phased use of the information by the list of potential users.

It is estimated that the common geographic data layers in the statewide and regional tiers of the VGIN data model when fully developed will meet approximately 90 percent of basemap informational needs of state agencies and planning district commissions. The first phase of this project will provide 20% of those common data layers, with an additional three (3) years required to complete the remaining areas of the state.

It is estimated that these layers can also be used by most local governments as the foundations to build GIS applications that support an estimated 25-30% of their planning and operational needs. During the development in this phase of the project, the DOQQ softcopy images and vector common data layers can be immediately put to use by counties, cities and towns as soon as their complete jurisdiction is developed.

There is no way of estimating what portion of the needs this project can fulfill in the private sector. However, the end result of the entire project will provide accurate, up-to-date, statewide common geographic data layers for Virginia for the first time. The list of potential users that will benefit from this effort was cited in a National Research Council report in 1991. The user groups shown demonstrate the breadth of the spatial data community---from private to public sector, business and industry, academia and government---and the wide variety of potential uses of geographic information.

Objectives/Methods For Accomplishment

The objectives of this proposed project are to define and develop a file structure (database) and develop the corresponding common geographic information needed to support the business of government in Virginia. The tasks and the methods for accomplishing these objectives, and the expected deliverables, are as outlined below.

Task - Acquire Aerial Photography for Virginia

This task is outside the scope of this project, but is absolutely critical to its success. The first step for this effort is the acquisition of current statewide aerial photography. This step is already underway and will be based on the NAPP color infrared aerial photography scheduled to be flown in "leaf off" conditions in 1994. The Department of Mines, Minerals, and Energy has provided Virginia's share (\$162,000) of the estimated costs and is in the process of contracting with the National Mapping Division of the U.S. Geological Survey for this photography. Aerial photographs that cover Virginia should be available in the Fall of 1994.

Examples of User Communities

Business	Sales, advertising, and marketing managers; product planners; site location, marketing, credit, and financial analysts; recruiters; demographers; statisticians; and actuaries.
Economic Development	Chambers of commerce, economic development agencies, lending institutions, and economic planning and financial consultants.
Education Administration	Facility and transportation planners, principals, and school boards.
Engineering	Engineering, transportation, architecture, and environmental planning and design.
Facility Management	Public housing agencies, architects, space planner, and facility managers.
Health Services	Groups involved with organizing the geographical distribution and access of health manpower and facilities.
Infrastructure Management	Groups involved in the management and maintenance of facilities comprising the national infrastructure: roads and highways; bridges; tunnels; railroads; airports; ports and harbors; and gas, electric, water, sewer, telecommunications and pipeline networks.
Logistics and Distribution Management	Logistic, circulation, and distribution managers, dispatchers, and schedulers; the postal service; private package and document delivery services; over-the-road freight haulers; and logistical support agencies of the U.S. Department of Defense and other governmental agencies.
Mineral Assessment/Extraction	Groups involved with the exploration and extraction of mineral resources other than oil and natural gas.
National Defense	Combat arms and support services of the national defense establishment when involved in field operations and training.
Petroleum Exploration and Production	Groups involved with the exploration and extraction of oil and natural gas both on- and off-shore.
Political Administration	Groups involved with the administration of local, state, federal, and other elections and/or the political redistricting process.
Public Health	Groups involved with the tracking, analyzing, and reporting of contagious diseases and other hazards to public health.
Public Transportation	Groups involved with the movement of people on public carriers.
Publishing and Media	Public and private organizations involved in the collection, production, and distribution of cartographic products and geographically related statistics.
Real Estate Information Management	Groups involved in the marketing, sale, transfer, management, and taxation of real property.
Renewable Resource Management	Groups involved with the conservation and exploitation of the Earth's renewable resources: air, water, fish and wildlife, forests, and agricultural and range lands.
Research	Groups involved in theoretical or applied research requiring the use of management of spatially indexed information.
Surveying, Mapping, and Data Conversion	Groups involved in the preparation of control, engineering, and property surveys; the production of large-scale planimetric, topographic, ownership, and utility system maps; and the conversion of said maps and drawings to a digital format.
Teaching	Groups directly involved with the instruction of students at all academic levels.
Urban and Regional Planning	Groups involved in land use planning and land use code enforcement.

Source: August 1993, Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations Report

Task - Database Design and Development

Acquire one-time professional contract services for:

- Detailed database design required to support the priority common data layers in the VGIN multi-tier data model. Approximately 62% of this task will be completed during this phase of the project. Contractor assistance for the preparation and review of data acquisition contracts will continue to be needed during the 3rd and 4th years of this 5-year project. Deliverables will include database file layouts and specifications (completed during this phase) and contract development and review assistance.

- Detailed analysis, requirements definition, and general design for the modernization of Virginia title records and the integration of those records with local government geographic information systems. This effort will define the recommended courses of action needed to effectively integrate the title records processes, procedures and information into the automated geographic information systems capabilities being utilized or developed by local governments. The deliverables from this effort would serve as the basis for making recommendations to improve Virginia's title records and for developing the recommended minimal data and data layers that should be developed by local governments (local tier of the VGIN data model). Approximately 78% of this effort will be completed during this phase with the remainder being completed in the 3rd year year of this project. Deliverables include local tier common data layer file layouts and specifications and recommended courses of action relative to integrating title records and GIS applications. (Note -- this may include recommended changes to the *Code of Virginia*.)

Task - Purchase Copies of the Aerial Photographs

One time purchase of black and white aerial photographs from NAPP for use by a vendor to develop the digital orthophoto quarter quad images. Deliverable is a set of aerial photographs for the 3276 quarter quadrangle maps that cover the Commonwealth and would be completed in the 1st year of this phase of the project.

Task - Develop Digital Orthophoto Quarter Quad (DOQQ) Images

One-time purchase of professional services to develop digital orthophoto images from aerial photography. It is estimated that a minimum of 36 months would be needed for a vendor to develop a complete set of DOQQ images for a state the size of Virginia. The following processes and procedures must be accomplished to develop the 3276 DOQQ images for Virginia:

- Establish the needed ground control using GPS positions - this includes identifying specific easily identifiable points on the aerial photography and dispatching GPS survey crews to obtain accurate location information for all needed points. Deliverables are approximately 3276 digital survey grade locations (latitude, longitude, and altitude). Approximately 67% of these points should be complete during this phase of the project, with the remaining 33% being completed in the 3rd year of this project.
- Aerotriangulation using the GPS ground control from above must be used on each of the aerial photographs, this process corrects variations in the airplane (pitch, roll, altitude, etc.) and camera and places registration marks. Deliverables are aerotriangulation calculations and registration marks for 3276 DOQQ photographs. It is estimated that 20% of the deliverables will be completed in the 1st year of this phase and 25% in the 2nd year. The remaining deliverables will be completed during the 3rd (30%) and 4th (25%) year of the next phase of this project.
- Develop digital elevation models (DEM) from the aerial photographs using the established ground control and the aerotriangulation results from above. Deliverables are new digital elevation models for Virginia's 3276 DOQQ's. It is estimated that 20% of the deliverables will be completed in the 1st year of this phase and 25% in the 2nd year. The remaining deliverables will be completed during the 3rd (30%) and 4th (25%) year of the next phase of this project.
- Develop the digital orthophoto quarter quad (soft copy images). Deliverables are 3276 DOQQ softcopy images. It is estimated that 20% of the deliverables will be completed in the 1st year of this phase and 25% in the 2nd year. The remaining deliverables will be completed during the 3rd (30%) and 4th (25%) year of the next phase of this project.

Task - Develop Vector Common Data Layers

Purchase professional services from a vendor to abstract/rectify/verify the following vector priority common layer coverages from the digital orthophoto quarter quad images for Virginia and to develop the appropriate attribute information for each layer. With the exception of obtaining the roads and streets vectors using GPS road tracking, the creation of other vectors cannot be started until the first verified DOQQ softcopy images are available (6 months after DOQQ startup) and cannot be completed until approximately 6 months after the last DOQQ images are made available.

- **Transportation Layers**
 - **Roads and streets common layers at 1:12,000 scale - this involves creating the centerline vectors and creating and verifying the corresponding attribute data. The Virginia Department of Transportation will create the roads and streets centerline vectors using GPS road tracking and will verify these vectors against the DOQQ images. Deliverables are the statewide roads and streets centerline vectors and corresponding attributes. It is estimated that 20% of the deliverables will be completed in the 2nd year of this phase. The remaining deliverables will be completed during the 3rd (25%), 4th (30%), and 5th (25%) year of the next phases of this project.**
 - **Railroads common layer at 1:12,000 scale, this involves creating vectors for all the railroad tracks in Virginia and creating and verifying the corresponding attribute data. Deliverables are the statewide railroad vectors and corresponding attributes. It is estimated that 20% of the deliverables will be completed in the 2nd year of this phase. The remaining deliverables will be completed during the 3rd (25%), 4th (30%), and 5th (25%) year of the next phases of this project.**
- **Hydrography common layer at 1:12,000 scale - this involves creating the vectors for all standing and moving water and creating and verifying the corresponding attribute data. Deliverables are the statewide hydrography vectors and corresponding attributes. It is estimated that 20% of the deliverables will be completed in the 2nd year of this phase. The remaining deliverables will be completed during the 3rd (25%), 4th (30%), and 5th (25%) year of the next phases of this project.**
- **Topography (contours) common layer at 1:12,000 scale, the contours are derived layers that can be created from the DEM's developed above. Deliverables are the statewide topography vectors and corresponding attributes. It is estimated that 20% of the deliverables will be completed in the 2nd year of this phase. The remaining deliverables will be completed during the 3rd (25%), 4th (30%), and 5th (25%) year of the next phases of this project.**
- **Political Boundary common layer (vectors and attributes) will be created on a statewide basis using the existing USGS DLG data files and the hard copy USGS 1:24,000 scale quadrangle maps. These vectors will be adjusted (rubber sheeted) to match the corresponding 1:12,000 scale DOQQ's and other VGIN common data layers. The adjusted political boundary vectors will need to be verified by local governments, and possibly re-certified for U.S. Bureau of the Census purposes. Deliverables are 1:12,000 and 1:24,000 scale statewide political boundary vectors and corresponding attributes. All the 1:24,000 scale vectors and attributes can be completed during this phase. It is estimated that 20% of the 1:12,000 vectors and attributes can be created during the 2nd year of this phase. The remaining deliverables will be created during the 3rd (25%), 4th (30%), and 5th (25%) year of the next phases of this project. The amount of time required for local government/Bureau of the Census verification and re-certification is unknown at this time.**

Additional Capabilities that Can Be Supported from the Above Products

State agencies, institutions of higher education, localities, planning district commissions, and private sector organizations can acquire color digital orthophoto quarter images for program or site specific locations without repeating the ground control and digital elevation model tasks.

Additional detailed vector information can be extracted from the softcopy digital orthophoto quarter quads as needed by state agencies, institutions of higher education, localities, planning district commissions, private sector organizations. Examples could include such things as: fire stations, rescue squad stations, schools, emergency shelters, industrial sites, airports, and solid waste sites.

Project Development Time Frames

The primary deliverable products (aerial photos, digital elevation models (DEM), softcopy digital orthophoto quarter quads, and vector common data layers) and their estimated development time frames are shown in the following table. The development cycle shown in the following Project Development Schedule represents the ideal development cycle for the complete 5 year project effort. It is possible to use a phased approach and spread the development effort and the corresponding funding requirements over a greater number of years.

Project Development Schedule

	Year 1	Year 2	Year 3	Year 4	Year 5
Contracted Assistance					
• Land Records Improvement					
• Database Design					
DOQQ Development					
• Acquire Aerial Photos					
• Acquire Digital Softcopy Images (DOQQ)					
- GPS ground control					
- Field survey work					
- Aerotriangulation					
- Digital Elevation Models (DEM)					
- Produce softcopy DOQQ images					
Create Vector Priority Common Layers					
• Transportation Layers					
create vectors					
create and verify attribute data for vectors					
• Hydrography Layer					
create vectors					
create and verify attribute data for vectors					
• Topography (contour) Layer					
create vectors					
• Political Boundary Layer					
create vectors & attributes & verify					

Alternatives Considered

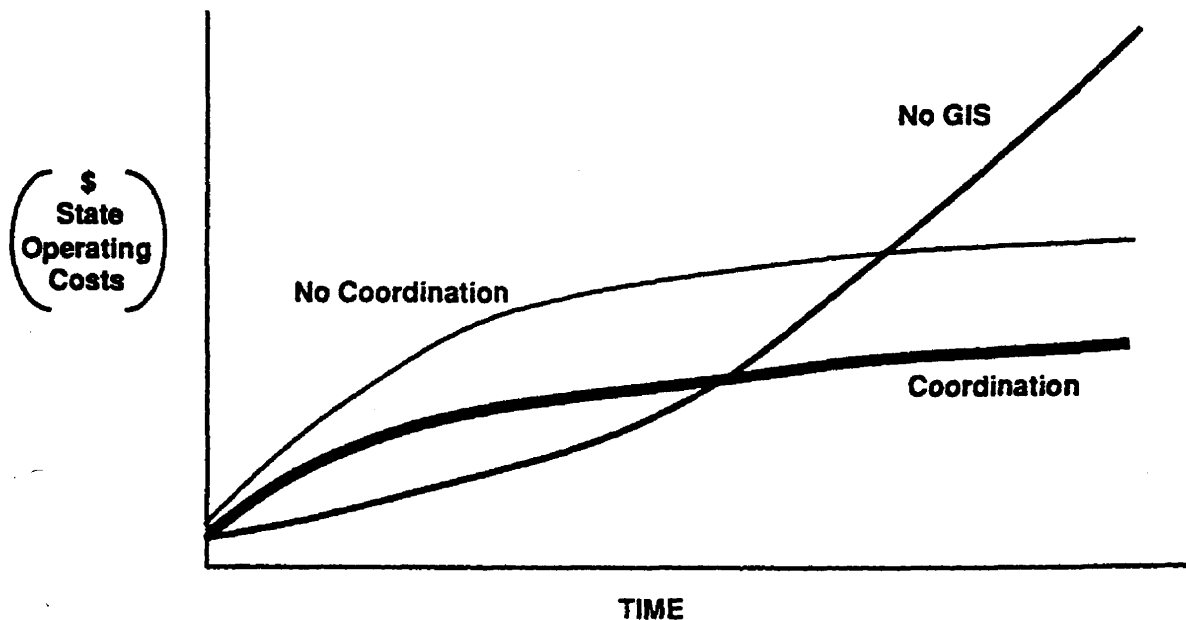
Using existing data from the USGS instead of GPS ground control and the digital elevation models (DEM) could reduce the overall cost for developing the statewide digital orthophoto

quarter quad softcopy images. However, this alternative was rejected because it would compromise the accuracy and utility of the 1:12,000 and 1:24,000 scale data layers products developed. The proposed DEM's provide accurate and consistent statewide information that is a long-term investment that can be used by all current and future GIS users with existing and future developed data. The alternative approach would complicate user developed applications and their ability to register data layers to the common data layers, reduce confidence and use of the VGIN data, and probably result in a future request for funds to do it right.

The recommended use of digital orthophotography at a scale of 1:12,000 to create vector base maps and to rectify existing 1:24,000 digital information is consistent with approaches currently underway in Kentucky, Maryland, Georgia, and Massachusetts.

The do nothing alternative will continue the widespread acquisition and development of the base geographic information in an uncoordinated, non-standard format to solve specific problems in narrowly defined organizational programs resulting in duplicate efforts, non sharable data, and inefficient use of scarce resources in both the private and public sectors. The following chart shows the most probable result of not developing statewide GIS capabilities.

Potential Benefits of Coordination Approach



Source: August 1993, Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations Report

Associated Legislative Proposals

There are no legislative proposals which have been introduced to date which directly address this proposed project.

Costs

Funding Requirements

This proposal assumes that cost of most tasks for this project can be cost shared (34% federal and 66% state) with federal programs. Prime federal partnership candidates include: the USGS's 1:24,000 scale DLG development, the US Bureau of Census TIGER files updates, the USDA

Soil Conservation Service's 1:12,000 scale DOQQ development, and the Intermodal Surface Transportation Efficiency Act.

This phase of the project requires \$1,201,702 in general funds in the 1st year of the biennium and \$1,700,442 in general funds in the 2nd year of the biennium. Subsequent phases of this project, for years 3-5 (FY 96-98) will require an additional \$4,571,065 in general funds. These costs represent a one-time data acquisition and development cost. A breakdown of general fund requirements by task over the 5-year projected development cycle is shown on the following table.

Project General Fund Estimated Costs Table

	Total GF	Year 1	Year 2	Year 3	Year 4	Year 5
Contracted Assistance	<u>480,000</u>	175,000	145,000	85,000	75,000	0
• Land Records Improvement	<u>140,000</u>	40,000	70,000	30,000		
• Database Design	<u>340,000</u>	135,000	75,000	55,000	75,000	
DOQQ Development	<u>3,376,309</u>	882,690	860,864	989,513	643,242	0
• Acquire Aerial Photos	143,880	143,880				
• Acquire Digital Softcopy Images (DOQQ)						
- GPS ground control	335,136	113,946	110,595	110,595		
- Field survey work	324,324	110,270	107,027	107,027		
- Aerotriangulation	529,729	105,946	132,432	158,919	132,432	
- Digital Elevation Models (DEM)	1,210,809	242,162	302,702	363,243	302,702	
- Produce softcopy DOQQ images	832,431	166,486	208,108	249,729	208,108	
Create Vector Priority Common Layers	<u>3,616,900</u>	144,012	694,578	868,222	1,041,866	868,222
• Transportation Layers						
create vectors	845,296		169,059	211,324	253,589	211,324
create & verify attribute data for vectors	1,081,080		216,216	270,270	324,324	270,270
• Hydrography Layer						
create vectors	1,081,080		216,216	270,270	324,324	270,270
create & verify attribute data for vectors	432,432		86,486	108,108	129,730	108,108
• Topography (contour) Layer						
create vectors	33,000		6,600	8,250	9,900	8,250
• Political Boundary Layer	144,012	144,012				
Totals	\$7,473,209	\$1,201,702	\$1,700,442	\$1,942,734	\$1,760,109	\$868,222

** double underlines indicate tasks not subject to cost sharing with federal organizations

Beginning in the spring of 1995, as the data layers are developed, the ongoing maintenance responsibility for the data will be provided by those designated responsible agencies, using primarily existing positions. Given VDOT's designated maintenance role, they may require several new or redefined GIS related positions during the first phase of this project. Additional positions will probably be required for those priority layers designated to be maintained by the "new GIS Management Unit" and the Department of Rail and Public Transportation during the 2nd phase (3rd-4th years) of this project.

Alternative funding sources may include:

- partial or full funding for development and maintenance of those data layers required to support the mandated systems required under the Intermodal Surface Transportation Efficiency Act (ISTEA) program.
- cost sharing partnerships with state agencies, institutions of higher education, local governments, public utilities and private sector organizations.

Consequences If Not Funded

Without statewide GIS capabilities, the Commonwealth and its localities are at a competitive disadvantage relative to other states and their respective cities and counties. Tax revenues will continue to be spent needlessly on redundant mapping and information technology activities, spatial data sharing and management activities will continue to be uncoordinated, and vital services to the public such as public safety and disease control are more efficiently administered when GIS technology is used to provide them.

With states competing with one another for new, ecologically sound industry, there is yet another "war between the states" in our country. The winners of this war will be those states which can most effectively market their resources, tax incentives, labor pool, and transportation infrastructure. Many states in the southeast have already begun concerted efforts to develop spatial data systems at the state level to help win this war. Failure to begin the data development process and formally establish a state strategy for GIS development could leave the Commonwealth severely disadvantaged with competing with the surrounding states in this economic development war.

If this proposed project is not funded, the following consequences will result:

Redundant data collection and maintenance will continue. State agencies, localities, planning district commissions, and private sector organizations will continue to collect, maintain, analyze, and process geographic information in proprietary formats to solve specific problems or to meet specific mandates. Data collection and maintenance costs are usually estimated at around 80% of the total costs associated with developing geographic information systems. The proposed common layers in this project will probably offset over 50% of the associated development cost for any given GIS application that will use or can be built based on these layers.

Information will continue to be stored in manual files and the associated manual processes, procedures, and informational retrieval processes will continue to be institutionalized. The CIM's 1990 report documented the fact that most state agencies are collecting, storing, analyzing, and displaying geographically referenced information using manual processes and procedures. The 1993 Mapping Applications in Virginia: Results of a Survey on Geographic Information Systems, developed by Center for Survey Research, Virginia Polytechnic Institute and State University for the Commission on Population Growth and Development reported that twenty-nine (29) of the 164 localities (94 counties, 41 cities and 29 towns) that were surveyed were using automated geographic information systems. These studies document the fact that significant opportunities currently exist at the state and local government levels to integrate and streamline manual processes, procedures, and geographically referenced information files using automated GIS. The Commonwealth's commitment to develop, maintain and share the common geographic information layers proposed in this project substantially reduces the short and long term resources required to develop and maintain a GIS application for any potential user of this data.

The inability to effectively share data will continue. Our ability to share data and extract useful information from that data will continue to be severely limited by the nature, content and format

of the data collected, as well as the various storage-media used by governmental organizations. This project will create enhanced opportunities for sharing of geographically referenced digital data: the common geographic information layers are being developed for the expressed purpose of sharing; the strategic direction (scale, accuracy, currency, content) provided by these common layers will promote the development of other statewide data layers at the same scale, with similar accuracy and currency that can be shared by other authorized users; and the common geographic information layers can be used by federal organizations to update mapping related DLG and TIGER files, which provide additional base layers at different scales that can be shared.

Current and accurate digital geographic information data layers required for building strategic decision-support systems will not be available. There are no current statewide digital base map layers (common layers) available at any scale for sharing or using as the basis for developing applications to support the business of government. Digital coverages available for Virginia include the 1:100,000 Digital Line Graphs (DLG) from the USGS and the 1:100,000 scale TIGER files from the U.S. Bureau of the Census. These coverages are general in nature, widely used by governmental organizations in Virginia, and are on 10-15 year federal update cycles. If these federal program coverages (DLG & TIGER) are kept reasonably current (within a year or two), they provide significant additional Virginia coverages.

Summary of Consequences If Not Funded

Ongoing in-State activities presented in the *Virginia Geographic Information Network; Situation Assessment and Strategic Recommendations* report do not reflect investments of personnel and financial resources that are merely spent; clearly they represent investments that are needed to support operational and decision-support functions. *Localities, Planning District Commissions, and state-level agencies must continue making investments in data and geographic information systems in order to carry out their missions.*

Absent leadership by state-level government, the more than \$100 million investments made each year in geographic information collection and use will occur outside an environment that promotes data sharing. The net result will be lost opportunity, redundant activities, and waste.

**Resource Summary Table
(Revised 11/15/93)**

Addendum Title: Virginia Geographic Information Network (VGIN) Implementation **Addendum No.:** 101

FTE Positions	1994-95 Request	1995-96 Request
General fund	0	0
Nongeneral funds:		
0200	0	0
0300	0	0
0400	0	0
0500	0	0
0600	0	0
0700	0	0
0800	0	0
0900	0	0
1000	0	0
Total Positions	0	0
Personal Services		
General fund	0	0
Nongeneral funds	0	0
Total Personal Services	0	0
Nonpersonal Services		
1200 - Contractual Servs.	1,201,702	1,700,442
<i>Consulting Services</i>	<i>1,057,822</i>	<i>1,700,442</i>
<i>Production Services</i>	<i>143,880</i>	<i>0</i>
1300 - Supplies & Materials	0	0
1400 - Transfer Payments	0	0
1500 - Continuous Charges	0	0
2100 - Property & Improv.	0	0
2200 - Equipment	0	0
2300 - Plant & Improv.	0	0
3100 - Obligations	0	0
Total Nonpersonal Services	1,201,702	1,700,442
Total Expenses	1,201,702	1,700,442
General fund	1,201,702	1,700,442
Nongeneral funds:		
0200	0	0
0300	0	0
0400	0	0
0500	0	0
0600	0	0
0700	0	0
0800	0	0
0900	0	0
1000	0	0

**Resource Summary Narrative
(Revised 11/15/93)**

Addendum Title: Virginia Geographic Information Network (VGIN) Implementation **Addendum No.:** 101

Personal Services

No additional personal services are requested in this budget addendum.

Nonpersonal Services

1200-Contractual Services. The detailed tasks and corresponding cost estimates for the proposed project were prepared by CIM staff based on recommendations provided in the recently completed *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report prepared by a consultant for the Virginia Commission on Population Growth and Development. The contractual services to be procured fall into two basic subcategories: management consulting and systems integration services, and production services. The breakdown of general fund requirements by task over the 5-year projected development cycle for this project is shown on the Project General Fund Estimated Costs Table.

Management consulting and systems integration services.

- **Acquire professional contract services for Land Records Improvement. It is estimated this could be completed in less than 18 months and would cost approximately \$140,000, all required from general funds during the next 3 fiscal years.**
- **Acquire professional contract services for Database Design - based on the consultants recommendations contained in the *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report. Estimated cost is \$340,000, all required from general funds during the next 4 fiscal years.**
- **Acquire Aerial Photographs - there are 819 7.5-minute quadrangle maps for Virginia times four (4) quarter quads per quadrangle map = 3276 quarter quad images. The estimated cost was developed based on similar efforts in other states was calculated @ \$66.50 per black & white photograph times 3276 quarter quad for a total cost of \$218,000, with \$143,880 (66%) required from general funds. during this biennium.**
- **Purchase professional services from a vendor to develop digital orthophotography images from aerial photography. The following are the processes, procedures and estimated costs to develop the 3276 digital orthophoto quarter quad images for Virginia:**
 - **Establish the needed ground control using GPS positions - \$155 per quarter quad plus the cost of the crew to survey the points in the field (Maryland has a contract for field survey points at \$150 per point) The GPS ground control was calculated based on estimates provided by a leading data conversion vendor and the field survey work was based on the Maryland contract for similar work.**

GPS ground control @ \$155 per quarter quad times 3276 = \$507,780, with \$335,136 (66%) required from general funds during the next 3 fiscal years.

Field survey work @ \$150 per point x 3276 x an average of 1 non-duplicate points per quarter quad = \$ 491,400, with \$324,324 (66%) required from general funds during the next 3 fiscal years.

- Aerotriangulation using the GPS ground control from above. This estimate is based on estimated costs provided by a leading data conversion vendor as was calculated as follows: @ \$245 per quarter quad x 3276 = \$802,620, with \$529,729 (66%) required from general funds during the next 4 fiscal years.
- Digital elevation models (DEM) development from the aerial photographs. The estimated costs range from \$285 (flat lands) to \$840 (mountainous terrain) per quarter quad depending on variation in the elevations. This estimate is calculated as follows: @ \$560 per quarter quad x 3276 = \$1,834,560, with \$1,210,809 (66%) required from general funds during the next 4 fiscal years.
- Produce softcopy DOQQ images - This estimate is calculated as follows: @ \$385 per quarter quad x 3276 = \$1,261,260, with \$832,431 (66%) required from general funds during the next 4 fiscal years.
- Purchase professional services to create or rectify/verify vector priority common layers using the 3276 DOQQ softcopy images for Virginia. The actual costs to accomplish these tasks will vary greatly depending on the type of terrain and the amount of development present in any given quarter quad.
 - Create transportation layers

create, verify, rectify roads & streets (vectors) and railroads (vectors and attributes) at 1:12,000 scale - Estimated cost is \$1,280,752, with \$845,296 (66%) from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.
 - Create railroads common layer (vectors and attributes) at 1:12,000 scale, calculated as: @ \$50 per quarter quad x 3276 = \$163,800, with 66% required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.
 - Create the roads and streets common layer (vectors) at 1:12,000 scale- based on the Virginia Department of Transportation's estimate of \$1,116,952 using GPS road tracking for creating road/street centerline vectors, with 66% required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.
 - create, verify, rectify corresponding roads and streets attribute data @ \$500 per quarter quad x 3276 = \$1,638,000, with \$1,081,080 (66%) required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.
 - Create hydrography common layer at 1:12,000 scale - calculated as follows: @ \$500 per quarter quad x 3276 = \$1,638,000, with \$1,081,080 (66%) required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.

create, verify, rectify corresponding attribute data calculated as follows: @ \$200 per quarter quad x 3276 = \$655,200, with \$432,432 (66%) required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.

- Create topography (contours) common layer at 1:12,000 scale, contours are derived layers from the DEM's developed above. @ \$50,000, with \$33,000 (66%) required from general funds starting in the 2nd year of this biennium and covering the following 4 fiscal years.

- Create political boundary common layer (vectors & attributes) at 1:24,000 scale calculated as follows: @ \$400 per 7.5 minute quadrangle times the 546 quadrangle maps that have not been completed for Virginia = \$218,200, with \$144,012 (66%) required from general funds during this biennium. The amount of time and additional costs required to rectify the 1:24,000 scale political boundaries to the new 1:12,000 scale base common layers and verify the results with the local governments and possibly the U.S. Bureau of the Census is unknown at this time.

Project General Fund Estimated Costs Table

	Total GF	Year 1	Year 2	Year 3	Year 4	Year 5
Contracted Assistance	<u>480,000</u>	175,000	145,000	85,000	75,000	0
• Land Records Improvement	<u>140,000</u>	40,000	70,000	30,000		
• Database Design	<u>340,000</u>	135,000	75,000	55,000	75,000	
DOQQ Development	<u>3,376,309</u>	882,690	860,864	989,513	643,242	0
• Acquire Aerial Photos	143,880	143,880				
• Acquire Digital Softcopy Images (DOQQ)						
- GPS ground control	335,136	113,946	110,595	110,595		
- Field survey work	324,324	110,270	107,027	107,027		
- Aerotriangulation	529,729	105,946	132,432	158,919	132,432	
- Digital Elevation Models (DEM)	1,210,809	242,162	302,702	363,243	302,702	
- Produce softcopy DOQQ images	832,431	166,486	208,108	249,729	208,108	
Create Vector Priority Common Layers	<u>3,616,900</u>	144,012	694,578	868,222	1,041,866	868,222
• Transportation Layers						
create vectors	845,296		169,059	211,324	253,589	211,324
create & verify attribute data for vectors	1,081,080		216,216	270,270	324,324	270,270
• Hydrography Layer						
create vectors	1,081,080		216,216	270,270	324,324	270,270
create & verify attribute data for vectors	432,432		86,486	108,108	129,730	108,108
• Topography (contour) Layer						
create vectors	33,000		6,600	8,250	9,900	8,250
• Political Boundary Layer	144,012	144,012				
Totals	<u>\$7,473,209</u>	\$1,201,702	\$1,700,442	\$1,942,734	\$1,760,109	\$868,222

** double underlines indicate tasks not subject to cost sharing with federal organizations

Operating Fixed Assets

None

Debt Service

None

Interagency Recoveries

None

Source of Funding

Not applicable

Virginia Geographic Information Network (VGIN) LOCAL GOVERNMENT BENEFITS

The *Virginia Geographic Information Network: Situation Assessment and Strategic Recommendations* report prepared by PlanGraphics, Inc. for the Commission on Population Growth and Development contains recommendations that will provide broad-based benefits to local governments. Key recommendations address the development of statewide GIS (geographic information system) data, locality development and funding of parcel data, and the development of a means for better communications, cooperation, coordination and sharing of data.

GIS data developed from implementing the priority recommendations in the VGIN report represents the most significant VGIN benefit to local governments. The recommended GIS data products include:

- The common, or base layers among the many data layers that any GIS system will ultimately need, including: *Transportation, Hydrography (water courses), Political Boundaries, Administrative Boundaries, Survey Control, Topography, Land Cover/Land Use, Planimetric Features (building footprints, manmade features, etc.), and Soils;*
- Aerial photography corrected to show the true location of earth features and converted to electronic images, or *digital orthophoto quarterquadrangle (DOQ) images;*

all at a scale of 1:12,000. Local government departments, divisions, bureaus, and program areas can use these products as a basis for building literally dozens of GIS applications ranging from *crime analysis* and *refuse management* to *land use planning* and *school bus routing*. These common data layers represent approximately 40%-50 % of the cost to develop a locality's first specific GIS application and an ever-decreasing percentage of the cost of subsequent GIS applications.

The common data layers provide benefits to all local governments, regardless of their size or the current status of their GIS efforts.

- For rural or moderately-developed localities, (i.e., the vast majority of local governments):
 - These data layers represent the only current, accurate, and consistent locality-wide base data available in the foreseeable future for developing local GIS applications supporting their activities;
 - These products contain sufficient levels of detail to support such high priority GIS applications as tax mapping, assessment, and E-911.
- For more urbanized localities:
 - Those in the multi-year process of developing parcel-based GIS systems can use these common data layers to support priority GIS applications until more detailed parcel-specific data becomes available;
 - Those with completed parcel-based GIS systems can use these common data layers to support GIS applications which require information not available in their parcel data, or for which maintaining parcel-level data is inefficient.

- For all localities, the common data layers provide a consistent basis for building regional GIS applications, such as economic development, transportation planning, crime analysis, and watershed analysis, that benefit multiple local governments.

The DOQ photo images can provide all local governments with:

- An accurate photo mosaic of each locality and its immediate surrounding area--an invaluable visual aid which can also preclude more expensive means of putting some data (such as tree cover) into a GIS;
- An accurate source for identifying data that is missing, desired, or improperly located on maps or in GIS data layers. Examples include roads, streets, driveways, and building footprints;
- The ability to measure distance and calculate area size.

**Local and Regional Application Areas Supported
by VGIN Common Data Layers**

Application Areas	VGIN COMMON DATA LAYERS									
	Priority Layers					Secondary Priority Layers				
	Survey Control	Political Boundaries	Transportation	Hydrography	Topography	Admin. Boundaries	Land Use & Land Cover	Soils	Planimetric Features	Parcels
Accident Analysis		◆	◆		◆					
Assessment Analysis	◆	◆	◆	◆		◆	◆		◆	◆
Crime Tracking & Analysis		◆	◆	◆		◆			◆	◆
Disaster Response Mgt.		◆	◆	◆	◆	◆	◆		◆	◆
Economic Development		◆	◆	◆	◆	◆	◆	◆	◆	◆
Emergency - 911		◆	◆			◆			◆	
Facility Site Selection	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Floodplain Analysis		◆	◆	◆	◆	◆	◆			
Forest Zone Management		◆			◆	◆	◆			
Hazardous Waste Mgt.		◆	◆	◆	◆		◆	◆		
Historic Resources Mgt.		◆				◆	◆		◆	◆
Land Use Planning	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Infrastructure Management	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Mineral Deposit Mgt.	◆	◆		◆	◆	◆	◆	◆		◆
Redistricting		◆	◆	◆		◆				
Refuse Management		◆	◆			◆				
Resource Protection Area Mgt.	◆	◆	◆	◆	◆	◆	◆	◆		◆
School Assignment & Analysis		◆	◆	◆		◆			◆	
School Bus Routing		◆	◆			◆				
Social Services Planning & Case Mgt		◆	◆			◆			◆	
Soil Classification		◆	◆	◆	◆	◆	◆	◆		
Street Inventory		◆	◆			◆				
Tax Mapping	◆	◆	◆	◆		◆			◆	◆
Traffic Control & Analysis		◆	◆	◆		◆				
Transportation Planning	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Underground Storage Tank Mgt.	◆	◆	◆	◆	◆	◆				◆
Utility Corridor Studies	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Watershed Boundary Analysis		◆	◆	◆	◆	◆	◆	◆		
Wetland Identification & Management.	◆	◆		◆	◆	◆	◆	◆		
Zoning	◆	◆	◆	◆		◆	◆	◆	◆	◆

◆ = common data layers required to support specified GIS application areas

SURVEY OF CENTRALIZED PLANNING EFFORTS OF STATE GOVERNMENTS

BY MARC BERNSTEIN

This survey addresses the progress of various state governments in the field of centralized state strategic planning and coordination of state planning with budget processes. The survey was performed for the Virginia Commission on Population Growth and Development to further its development of legislation to establish a state planning office in Virginia.

A. Methodology

In November 1992, the Commission on Population Growth and Development mailed letters to the governor's of all fifty states requesting general information regarding the state's planning office. Thirty-five states responded to this solicitation in varying levels of detail. Information from thirty-four of these states is outlined below.² Three states that failed to respond to the solicitation also have been included in the survey.³

The depth of the discussion for each state varies with the quantity and quality of information which the state itself provided. However, an effort has been made to augment the information provided for states that have made significant progress in their strategic planning efforts. In such cases, state statutory and administrative materials as well as other sources have been employed.⁴

Not all information provided by the states has been included. To the extent such information was available and pertinent, each state's narrative includes the following data: (1) Whether the state has a centralized planning office; (2) the general responsibilities of that office, including its statutory authorization and mandate, if any; (3) to whom the office principally reports; (4) the personnel and budget statistics for the office; (5) the office's involvement with the state budget process; (6) a history of the office; and (7) other relevant information.

² Kansas' response provided no useful information and was therefore not included.

³ Georgia, Florida, and Washington failed to respond. Because of the significance of these states in the field of state strategic planning, an effort has been made to glean the appropriate information from statutory and administrative compilations and other sources.

⁴ Any information not specifically cited to a statute, administrative code, or other source is attributable directly to the state's correspondence, which is taken as authoritative.

B. General Conclusions

1. Central Planning Activity and Centralized Control

Six states reported that they did not engage in centralized planning at the state level.⁵ In these states, planning is accomplished by cabinet departments and executive branch agencies individually in their fields of expertise. Four other states indicated that they did not maintain an office dedicated to centralized planning.⁶ At least one of these states, Delaware, stated that centralized planning is directly controlled by the governor's office.

At the other end of the spectrum, some eight states appear to have created a new planning entity to assist with the formation or implementation of the state's long-range, strategic planning effort.⁷ For example, Arkansas created a new commission to devise its plan. Both New Jersey and Rhode Island formed two new entities concurrent with the enactment of their strategic planning statutes. Vermont transferred planning authority back to the office of the governor when it enacted Act 250.

The remaining nineteen states fall somewhere between these two extremes. These states engage to some degree in centralized coordination but do not have a major planning entity dedicated solely to this purpose. Many of these states have planning activities housed in a fiscal management department or a lower level office responsible for planning and budget.

2. Coordination of Planning Activities With Budget Process

At least five states that engage in long-range, strategic planning link their planning efforts to some degree with the budget process. California's planning office assists the Department of Finance to build an integrated program for implementation. Minnesota, which maintains a independent, cabinet-level, strategic planning agency, merely requires coordination for major public projects. Texas, a newcomer to the strategic planning field, requires a stronger connection. Its two planning bodies have joint responsibility for linking the planning system with the appropriations process to create a comprehensive system of strategic planning and budget development. Rhode Island also requires "close coordination" between the two tasks. Lastly, Washington created its Office of Program Planning and Fiscal Management expressly to allow short-term budget planning and long-term program planning to complement each other.

⁵ These states are Kentucky, Massachusetts, New Mexico, Pennsylvania, West Virginia, and Wisconsin.

⁶ These states are Alaska, Delaware, North Dakota, and South Carolina.

⁷ These states are Arkansas, Florida, Hawaii, Maryland, New Jersey, Oregon, Rhode Island, and Vermont.

Many other states maintain centralized planning functions within an agency which also performs financial management. For example, Idaho accomplishes its planning through the Division of Financial Management. Colorado, Florida, Georgia, and Louisiana all yield planning authority to an Office of Planning and Budgeting. The extent to which the planning and financial management in these states actually occurs on an integrated basis is unclear.

C. State-by-State Discussion

Alabama

Alabama carries out its state planning function through its Department of Economic and Community Affairs. The department is a broad-based cabinet-level agency and answers directly to the governor.

Alaska

Alaska does not maintain a planning office. In 1990, the governor abolished the Division of Policy. Alaska retains a Budget Review Division and Division of Audit and Management Services within the Governor's Office of Management and Budget.

Arkansas

Arkansas established the Commission for Arkansas' Future in 1989 to develop the state's comprehensive strategic plan. ARK. CODE ANN. § 25-25-101 (Supp. 1993). The commission is composed of the state's Chief Fiscal Officer, three members from each legislative house, selected by the respective house, and between nineteen and twenty-nine members of the public, selected by the governor. The Chief Fiscal Office does not vote. *Id.* § 25-25-102.

The mandate for the commission is quite broad: "[The commission] shall identify trends affecting the state[] and ... [d]evelop detailed strategies and initiatives that will assist the state in maximizing its potential. ... Additionally, the Commission will have the responsibility for coordinating efforts to implement their strategies and initiatives." *Id.* § 25-25-103. The enacting statute in no way connects the planning process with the state budget.

California

California accomplishes its centralized state planning through its Office of Planning and Research. The office is responsible to the governor and the governor appoints the director. CAL. GOV'T CODE §§ 65037, 65038 (1992).

The office was established by statute in 1970 to "serve the Governor and his Cabinet as staff for long-range planning and research, and constitute the comprehensive state planning agency." *Id.* §§ 65037, 65040. The office's many specific functions include formulating long-range goals and policies, assisting state agencies in developing short-range functional plans, recommending solutions to intragovernment conflicts at the state level, and providing planning assistance to all levels of government. *Id.* The office does not directly participate in preparation of the budget but instead "[a]ssist[s] the Department of Finance in preparing, as part of the annual state budget, an integrated program of priority actions to implement state functional plans and to achieve statewide environmental goals and objectives...." *Id.* Also, as part of the budget process, the office provides the legislature with information regarding the achievement of state goals by state agencies. *Id.*

Colorado

Colorado has statutorily assigned the responsibility for state planning to the Office of State Planning and Budgeting. The office is within the Governor's Office and the director serves at the pleasure of the governor.

In 1987, the legislature eliminated funding for the planning staff but the statutory responsibility remains.

Connecticut

Connecticut established the Office of Policy and Management in 1977. The office directly assists the governor in matters of budget, intergovernmental relations, management and performance evaluation, and policy development and planning.

In 1991, the state reorganized the Office of Policy and Management and created within it the Policy Development and Planning Division. This division coordinates agency policy to promote comprehensive statewide planning and policy development. The office is charged with developing a five-year comprehensive capital development strategy.

Within the Policy Development and Planning Division are the Human Services and Economic Development Cabinets. The cabinets specifically serve to further interagency coordination and policy development with regard to human resources and economic development. These cabinets are comprised of various commissioners and agency heads.

Delaware

Delaware does not have a planning office. The Governor's Office tends to these matters directly. The Chief of Staff and Deputy Chief of Staff assist the governor in

developing the executive agenda and coordinating the plan among the various departments.

Delaware's Office of Planning and Coordination formerly performed such functions but was abolished in 1991 after a mere two-year lifetime.

Florida

Florida maintains an Office of Planning and Budgeting within the Executive Office of the Governor. *See* FLA. ADMIN. CODE ANN. r. 27E-3.003 (1990). The Office of Planning and Budgeting is charged by statute with preparing the State Comprehensive Plan. *See* FLA. STATE. ANN. §§ 186.003-.007 (1993).

The office holds primary responsibility for coordinating staff work, preparing schedules, holding interagency work groups, and soliciting input from the public and private sectors in order to prepare the plan. FLA. ADMIN. CODE ANN. r. 27E-3.003-.005. However, the Governor, as chief planning officer, is directly responsible for implementation of the plan. FLA. STAT. ANN. § 186.008(4).

The original Florida State Comprehensive Planning Act of 1972 vested planning authority in the then-newly created Division of State Planning. 1972 Fla. Laws ch. 72-295, § 3; *see also* FLORIDA ENVIRONMENTAL AND LAND USE LAW SECTION & REAL PROPERTY, PROBATE AND TRUST LAW SECTION, FLORIDA BAR, FLORIDA ENVIRONMENTAL AND LAND USE LAW 1-17 to -19, -23 to -24 (1987) (tracing the history of comprehensive state planning in Florida). The planning duties were transferred to the Executive Office of the Governor in 1979 and the Division of State Planning was abolished. *Id.* at 1-23 to -24; 1979 Fla. Laws ch. 79-190, § 66.

Georgia

Georgia maintains a statutorily created Office of Planning and Budget within the Office of the Governor. GA. CODE ANN. § 45-12-72 (1993). The governor appoints the director of the office and the director serves at the pleasure of the governor. *Id.*

The legislature has charged the office with preparing policies and plans to serve as the basis for the budget. *Id.* § 45-12-73. The office also shall "[d]evelop a long-term capital improvements budget," and "[d]evelop plans for improvements and economies in organization and operation of the state agencies and implement such plans as are approved by the General Assembly." *Id.*

The Georgia General Assembly recently revised the office's mandate and greatly expanded its planning powers. *See id.* § 45-12-73(1), (2), (10), (11). The 1993 amendments charge the office with "develop[ing] and implement[ing] a process of strategic planning to establish and periodically update an overall plan for state

government and require all state agencies to develop a strategic plan that is consistent with that overall state plan." *Id.* The amendments also require outcome-based budgeting and outcome measures for program evaluation and mandate that the office lead efforts to improve government efficiency. *Id.*

Georgia also maintains a Governor's Development Council composed of various, specified agency heads and nine private sector representatives. *Id.* § 45-12-200 to -207. The council is attached to the Office of Planning and Budget and receives technical assistance therefrom. *Id.* § 45-12-205. The council's duties include "coordination of long-range planning and coordination of the location and construction of public facilities on the basis of state, regional, and local considerations identified in the comprehensive state-wide plan...." *Id.* § 45-12-204.

Hawaii

Hawaii has statutorily created a State Planning Office within the Office of the Governor. *See* HAW. REV. STAT. § 225M-1 to -4 (Supp. 1992). The governor appoints the director of the office with reference to the specific qualifications laid out in the statute. *Id.* § 225M-2.

The purpose of the office is "to assist the governor in maintaining an overall framework to guide the development of the State through a continuous process of comprehensive, long-range, and strategic planning...." *Id.* § 225M-1. Specifically, the office must "formulat[e] and articulat[e] statewide goals, objectives, policies, and priorities, and coordinating their implementation through the statewide planning system...." *Id.* § 225M-2(1). The State Planning Office also engages in the following specific planning activities: strategic planning, population planning, intergovernmental coordination, capital investment planning, land use planning and coastal and ocean policy management. *Id.* § 225M-2.

Idaho

Idaho accomplishes its statewide planning through its Division of Financial Management. The division is part of the Executive Office of the Governor and is also the governor's budget office.

Iowa

Iowa's planning authority is the Planning and Policy Development Division of the Department of Management. This division was created in 1986 as part of a reorganization. It is not clear whether this entity is a continuation of a previous entity.

Kentucky

Kentucky abolished its state planning office in a reorganization in 1980. The office had been established in the 1960s. The reorganization dispersed the policy-making activities of the office among the major agencies of the state government.

Louisiana

Louisiana maintains an Office of Planning and Budget within the Division of Administration. The Division of Administration is housed in the Office of the Governor. The functions of the Planning Section of the office include coordination of state strategic planning and management efforts.

Louisiana statutorily created a State Planning Office in 1968 as an independent unit within the Office of the Governor with thirty-six employees. The centralized planning function performed by this office has been moved and the staffing cut several times since then. The current Planning Section has a staff of only seven.

Maine

In Maine, central planning authority rests with the State Planning Office, established by statute in 1968. *See* ME. REV. STAT. ANN. tit. 5, § 3303 (1992). The State Planning Office is housed within the executive branch and staffs 39.5 positions.

Generally, the office makes short- and long-term policy recommendations and maintains information with regard to development plans and state and federal development assistance. The office also administers some specific programs, including: Coastal Zone Management Act review, Land For Maine's Future land acquisition program, and the State Socio-Economic Data Center and Coordination of Shoreline Zoning Act. The office is functionally divided into the Policy Coordination and Management Division, Economics and Energy Policy Division and the Natural Resources Policy Division. The office does not appear to have substantial connection with the general budget process.

Maryland

Maryland maintains an Office of Planning to act as principal staff agency for planning. *See* MD. CODE ANN. STATE PROCUREMENT AND FINANCE §§ 5-201, -301 (1993). The governor appoints the Secretary of State Planning with the consent of the senate. *Id.* § 5-202. The secretary is a member of the governor's cabinet and serves at the pleasure of the governor. *Id.* §§ 5-201 to -202.

The State Planning Office appears to have no specific statutory connection with the state budget. The Department of Budget and Fiscal Planning carries out that function. *See id.* §§ 3-101 to -206.

The Maryland legislature has just created the Economic Growth, Resource Protection and Planning Commission, which is a reformulation of the State Planning Commission. *See generally id.* §§ 5-701 to -7A-02. The new commission advises the governor and the General Assembly on the success of the implementation of the State Development Plan. The commission is comprised of two legislative members, three members suggested by the association of counties and the municipal league and twelve citizens representing the regions of the state. The Office of Planning staffs the EGRP&P commission.

Massachusetts

Massachusetts eliminated its Office of State Planning in 1978. The state maintains a cabinet-style executive branch and each agency conducts its own planning and construction activities within its area of expertise. The governor may coordinate these activities. On some occasions, when one agency clearly takes the lead on a particular project, that agency will coordinate the project.

A Division of Capital Planning and Operations acts as the state's "landlord" for all publicly held real estate, facilities, *etc.*

The Special Commission on Growth and Change, a legislative commission, has suggested the creation of a state planning office within the governor's office. This office would facilitate development of state agency plans and decisions, certify regional plans and generally oversee the state's planning process.

Minnesota

Minnesota's Office of Strategic Long-Range Planning is a separate cabinet-level agency. The director is appointed by and reports to the governor. MINN. STAT. ANN. § 4A.01 (Supp. 1993). The office's budget is roughly \$2.5 million per year with a staff of about fifty-five.

The office's statutory mandate requires it to "develop an integrated long-range plan for the state." *Id.* The office must also coordinate activities among all levels of government and ensure public participation. *Id.* Although the office has no direct statutory involvement in the state budget process, the law requires the office to "act in coordination with the commissioner of finance, affected agencies, and the legislature in the planning and financing of major public projects." *Id.*

The office is divided into work teams as follows: long-range and strategic planning, state demographer's office, staff to the Environmental Quality Board, staff to the Governor's Action for Children Council and Children's Cabinet, and several small grant-funded programs. The office has just completed its long-range plan, complete with measurable goals and objectives.

Minnesota established a separate office of planning in the 1960s. Over the years, its functions became commingled with other agencies until it re-emerged as a free-standing planning agency in 1983. In 1991, an executive-legislative compromise reduced the size of the office.

Missouri

Missouri's Division of Budget and Planning is part of the Office of Administration in the executive branch. The head of the division is one of the two deputy commissioners within the Department of Administration and reports directly to the Commissioner of Administration.

Nevada

Nevada accomplishes its central planning through the Planning Section of the Department of Administration. The Chief of Planning reports directly to the head of the Department of Administration.

New Hampshire

New Hampshire has established an Office of State Planning by statute in the Office of the Governor. See N.H. REV. STAT. ANN. § 4-C:1 to :22 (1993). The office is run by a designee of the governor. *Id.* § 4-C:1.

The New Hampshire code expressly charges the Office of State Planning to (1) plan for the development of the state's resources, (2) assist planning, growth management, and development activities of localities and (3) encourage coordination of state planning activities. *Id.* To accomplish these goals, the office must assist the governor in preparing and revising the state's comprehensive development plan. *Id.* § 4-C:2. The office must also maintain a technical database to support planning activities and monitor the planning activities of state agencies to ensure consistency with the development plan. *Id.*

The office has no statutory mandate to assist in budget development.

New Hampshire has recently created a position within the Office of State Planning known as the Coordinator of Federal Funds. *Id.* § 4-C:4. This position, effective July 12, 1992, succeeds the Administrator of Federal-State Financial Information. The

coordinator's responsibilities include seeking out available federal funds and notifying affected entities at all levels of government. *Id.* Whereas the former Administrator of Federal-State Financial Information was a passive, information gathering position, the coordinator's task is much more aggressive with regard to procuring federal money for the state.

New Jersey

New Jersey established its Office of State Planning and its State Planning Commission when it enacted its State Planning Act of 1985. *See* N.J. REV STAT. § 52:18A-201 (Supp. 1993). The Office of State Planning exists within the Department of the Treasury and the director serves at the pleasure of the Governor. *Id.* The Office of State Planning assists the State Planning Commission in creating and revising the State Development and Redevelopment Plan. *Id.*

The State Planning Commission is responsible for preparing, maintaining and revising the State Development and Redevelopment Plan. *Id.* § 52:18A-202. The State Planning Act also saddles the commission with the duty to negotiate plan cross-acceptance with each county board. *Id.* The governor appoints the members of the Commission, only some of whom serve at the pleasure of the Governor. *Id.* § 52-18A-197. Membership provisions ensure political diversity. *Id.* Of the seventeen members, four represent local government and six represent the public. *Id.*

Neither the Office of State Planning nor the State Planning Commission appear to have any statutory connection with state budget preparation.

New Mexico

New Mexico does not have a central planning office. New Mexico tried several different organizational schemes for centralized planning but eventually abolished the State Planning Office and scattered its functions among the cabinets.

Currently New Mexico maintains a Policy Unit within the Office of the Secretary of the Department of Finance. The Policy Unit employs only two professionals.

North Carolina

North Carolina's Office of State Planning is located within the Governor's office. It is separate from the governor's immediate staff for personnel and budget purposes but the director reports directly to the governor's chief of staff.

The office includes a small staff of planning analysts, the state data and demographics center, and the center for geographic information and analysts.

North Dakota

North Dakota does not maintain a central planning office.

Oregon

Oregon's main state planning agency is the Economic Development Department. The governor selects the director of the department, subject to senate approval. OR. REV. STAT. ANN. § 285.040 (1992). The department's main function is to devise and implement a comprehensive policy for "balanced economic and community development." *Id.* § 285.020. The Economic Development Commission advises the department and the governor. The commission is comprised of nine members of no specific affiliation, selected by the governor and approved by the senate. *Id.* § 285.010. The governor is a nonvoting, ex officio member of the commission. *Id.*

The Executive Department, an executive branch entity that superseded the Department of Finance, assists the governor in preparation of the budget. *Id.* § 184.304, 291.210. By statute, the Executive Department maintains both a Budget Division and a Planning Division. The statute does not assign to these divisions any specific functions. *Id.* § 184.305.

The Oregon Progress Board exists to develop a comprehensive development strategy for the state. *Id.* § 184.250 note, § 5 (Supp. 1992). The broad mandate for the board includes education and work force development, environmental quality, infrastructure, and public and private cooperation. *Id.* The board's authority expires in 1995. *Id.* § 9.

Pennsylvania

Pennsylvania does not have a central planning office. Individual departments of the government engage in their own planning.

Pennsylvania does maintain a State Planning Board. The board is comprised of cabinet officers and legislative and citizen appointments. The board receives staff support from the Governor's Policy Office and department staff.

Rhode Island

Rhode Island's statewide planning program includes the State Planning Council, the Office of Strategic Planning, and the Office of Systems Planning. R.I. GEN. LAWS § 42-11-10(b)(2) (1993). The Office of Strategic Planning and the Office of Systems Planning are both housed in the Division of Planning, which is located within the Department of Administration. The State Planning Council appears to respond directly to the Office of the Director of the Department of Administration.

Rhode Island law charges the State Planning Council to formulate, adopt, and revise as necessary a strategic plan and a long-range state guide plan. *Id.* § 42-11-10(f)(1). Membership on the council includes the director of the department of administration (who acts as chairperson), the director of the governor's policy office (vice-chairperson), the governor or the governor's designee, and the budget officer. *Id.* § 42-11-10(d). The fourteen member council also includes two members of the legislature and four members of the public, three of whom are chosen by the governor. *Id.* The Division of Planning acts as principal staff agency to the State Planning Council. *Id.* § 42-11-10(f).

The law provides a broad and somewhat vague mandate for coordination of the state long-range planning process and budget formation: "State agencies concerned with specific subject areas, local governments, and the public shall participate in the state guide planning process, which shall be closely coordinated with the budgeting process." *Id.* § 42-11-10(d).

South Carolina

South Carolina does not maintain a central planning office. The Reorganization Commission is a *legislative* entity charged with increasing the efficiency and effectiveness of state government. See S.C. CODE ANN. § 1-19-10 to -260 (1992). The commission makes recommendations to the General Assembly and assists in the development of legislation.

The commission was created in 1948 but has operated in the legislative branch since only 1976. It consists of nineteen members: seven from each house of the legislature and five gubernatorial appointees.

South Carolina is currently proposing to radically restructure its executive branch. See Exec. Order 91-01 (1991). The proposal does not appear to establish a central planning office. See SOUTH CAROLINA COMM'N ON GOVT. RESTRUCTURING, MODERNIZING SOUTH CAROLINA STATE GOVT. FOR THE TWENTY-FIRST CENTURY (exec. summ., 1991).

Tennessee

The Tennessee Planning Office is an agency of the governor's office. The office's executive director reports directly to the governor.

Texas

Texas enacted its strategic planning legislation in 1991. The law gives planning authority to two pre-existing agencies: the Governor's Office of Budget and Planning and the Legislative Budget Board. The Governor's Office of Budget and Planning is

housed within the executive branch. The Legislative Budget Office is a ten-member board within the legislative branch comprised solely of members of the legislature.

The Governor's Office has responsibility for developing the initial draft of *Texas Tomorrow*, "a statement of the vision, philosophy, mission and goals" for the state. However, the statute provides that the offices "shall work together to compile a long-range strategic plan for state government...." H. 2009, 72d Leg., § 3 (1991) (enacted). The Legislative Budget Office monitors and analyzes performance indicators supplied by the planning process.

The offices have joint responsibility in linking the planning system with the state's appropriations process to create a comprehensive system of strategic planning and budget development, implementation and monitoring. Also, the Comptroller of Public Accounts, by executive order, studies and reports on key economic, demographic and technological trends and develops a business plan to be incorporated into the state strategic plan. See Exec. Order AWR 92-1 (1992).

Utah

Utah's Office of Planning and Budget is directly responsible to the governor. Within the office, Utah maintains both a State Planning Division and a Planning and Budget Analysis Division.

Vermont

In 1969, the Vermont legislature passed Act 250, the state's growth management bill. See VT. STAT. ANN. tit. 10, §§ 6001 *et seq.* (1993). Concurrent with the passage of Act 250, the legislature abolished the Central Planning Office and transferred the functions of that office to the office of the governor, presumably to allow the governor to implement Act 250. See VT. STAT. ANN. tit. 43, § 2104 (1993). In 1973, the Governor created the State Planning Office to prepare and occasionally revise the plans required under Act 250. Exec. Order 5-73, 3 VT. STAT. ANN. tit. 3, app. (1993). The Office of Policy Research and Coordination succeeded the State Planning Office.

Act 250 also established an Environmental Board to "adopt" the plan created under Act 250. VT. STAT. ANN. tit. 10, §§ 6021 & 6042 (1993). The governor appoints the members of the board with advice and consent of the senate, but she may only remove a member for cause. *Id.* § 6021. The chairman serves at the pleasure of the governor. *Id.*

Washington

Washington's state planning and program development functions are carried out through the Office of Fiscal Management. REV. CODE WASH. ANN. § 43.41.030-.980

(1983). The governor appoints the director with the senate's approval and the director serves at the pleasure of the governor. *Id.* § 43.41.060.

The office's statutorily defined duties include providing "technical assistance to the governor and legislature in identifying needs and in planning to meet those needs through state programs and a plan for expenditures." *Id.* § 43.41.110. The office engages in comprehensive planning for state programs and provides for inter-departmental and inter-governmental coordination. *Id.* The statute also charges the director with the broad mandate to "[e]xercise all the powers and perform all the duties prescribed by law with the respect to the administration of the state budget and accounting system." *Id.* § 43.41.100.

The legislature created the Office of Program Planning and Fiscal Management in 1969 after finding that "the need for long-range state program planning and for the short-range planning carried on through the budget process[] complement each other." REV. CODE WASH. ANN. § 43.41.030; see 1969 Wash. Laws, Ex. Sess., ch. 239, § 3 *codified as amended at* REV. CODE WASH. ANN. § 43.41.050. To achieve this integrated planning, the enacting statute transferred to the office functions from the central budgetary agency and the state planning, program management, and population research divisions of the community affairs agency. *Id.* §§ 43.41.050, .940. The office was renamed "Office of Fiscal Management" in 1977. *Id.* § 43.41.035.

West Virginia

West Virginia does not have a general state office of planning. The various state agencies plan within their areas of expertise. However, the state coordinates "economic growth and development through the development of a comprehensive economic development strategy," which is promulgated by the Council for Community and Economic Development. W. VA. CODE § 5B-2-3 (1993). The council acts as a board of directors for the Development Office, which is one of the governor's offices. Statute mandates that the comprehensive economic development strategy "outline[] strategies and activities designed to continue, diversify, or expand the economic base of the state as a whole...." *Id.*

Wisconsin

In 1981, Wisconsin discarded its state planning office and dispersed its functions among the state's departments. For example, the Department of Transportation handles intermodal transportation and land use planning issues and the Department of Agriculture deals with subdivision plat review.

Wisconsin does not produce an official state planning document. Instead, the various state agencies create their own functional plans. However, the Department of

Administration remains responsible for certain statewide functions, such as information technology, debt management, and telecommunications management.

Wyoming

Wyoming's State Planning Coordinator's Office is by statute part of the Office of the Governor. The staff reports directly to the governor and is supervised by the State Planning Coordinator.