

# TECHNOLOGY IT STRATEGIC PLAN

**Information Technology Planning Database:** Geological and Economic Survey-GIS Coordinator's Office

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## Mission and Goals

**Agency:** Bureau of Commerce--Geological and Economic Survey-GIS Coordinator's Office

**Mission:** To implement a statewide Geographic Information System (GIS) program, in partnership with all state, federal, county, and local governments, and in cooperation with private industry, that will develop a comprehensive, standardized, and public domain digital cartographic database to be shared and used by government agencies, the general public, and business community in order to modernize and improve decision-making processes at all levels of government in order to benefit the citizens of West Virginia.

**Goal Year:** 2005 **Goal Number:** 2 **Goal Year Ends:** 2006

Goal Description: Maintain programmatic objectives and avoid further cuts in GIS services and personnel in light of FY03, FY04, FY05, and FY06 mandated budget reductions which total approximately 25 percent.

Supports CTO Goal 1 Supports CTO Goal 2 Supports CTO Goal 3 Supports CTO Goal 4 Supports CTO Goal 5 Supports CTO Goal 7 Supports CTO Goal 8 Supports CTO Goal 9

**Goal Year:** 1996 **Goal Number:** 1 **Goal Year Ends:** 2006

Goal Description: This is an ongoing goal of the WV GIS Program and the Office of GIS Coordinator since the program was initiated in 1995. Continue to improve the coordination of various GIS initiatives and projects between state agencies and other entities (e.g. federal, county, municipal, private industry, etc.); monitor ongoing GIS activities, such as contracted work and agency projects; answer general inquiries

about the GIS program in West Virginia; develop databases that support GIS applications with the greatest utility for multiple organizations; facilitate access to data and GIS functionality by multiple users; pool financial, staff and technical resources to build the state GIS; establish and enforce data standards to facilitate the use of information by different organizations; improve the quality, availability and equitability for access and dissemination of geographic information to support decision-making and management; minimize duplication of effort for state agency funding and labor; demonstrate use of GIS to increase the productivity of state agency management and staff regarding their daily operations and procedures; promote geographic education and professional career development in geospatial technologies.

Supports CTO Goal 1 Supports CTO Goal 2 Supports CTO Goal 3 Supports CTO Goal 4 Supports CTO Goal 5 Supports CTO Goal 7 Supports CTO Goal 8 Supports CTO Goal 9

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## Accomplishments

**Agency:** Bureau of Commerce--Geological and Economic Survey-GIS Coordinator's Office

Accomplishment Number: 1

Year: 2002

Description: WV GIS Coordinator Craig Neidig was appointed Chair of the newly created Statewide Addressing and Mapping Board, which will be developing the program for E-911 mapping and rural addressing in West Virginia.

Accomplishment Number: 3

Year: 2003

Description: As Chair of the WV Statewide Addressing and Mapping Board (WVSAMB), the GIS Coordinator issued two RFPs for mapping and addressing contractors before the end of 2003, per legislative directive. BAE Systems was awarded the mapping contract and MicroData GIS the addressing contract. WVSAMB legislative rules were also introduced. Cooperative agreements were signed with Marshall University, WV Association of Counties, Miss Utility of West Virginia, and WV Division of Highways. All 55 counties signed on as project cooperators by the December 2003 deadline. The USDA contributed funding to support the project. New statewide aerial photography was collected by BAE in Spring 2003 and orthophotography and planimetric data delivery was initiated in December 2003. A series of public meetings and workshops was held around the state in the fall of 2003 in order to inform and prepare county officials and local residents of the 9-1-1 mapping initiative.

Accomplishment Number: 4

Year: 2003

Description: As part of the MLMP, the WV GIS Technical Center at WVU (WVGISTC) completed the scanning and conversion of 1:24000 Digital Line Graph (DLG) coverages of roads, streams, and boundaries statewide. The DLG stream coverage was used by the Natural Resources Analysis Center (NRAC) at WVU to

complete the National Hydrologic Database (NHD) for the state in cooperation with the USGS.

Accomplishment Number: 2

Year: 2004

Description: As Chair of the WV Statewide Addressing and Mapping Board, oversaw completion of 1:4800 scale orthoimagery development and planimetric mapping for the state. This data will be used by counties, federal agencies, and state agencies to modernize and improve the quality of their mapping and GIS data. The new data will be the new mapping foundation for the state and serves as a standardized base for developing new and more accurate maps and correcting errors and deficiencies in existing maps and geospatial data.

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## Agency's Progress in Accomplishing CTO Goals

Agency: Bureau of Commerce--Geological and Economic Survey-GIS Coordinator's Office

**CTO Goal 1:** Improve the efficiency of government through: business process re-engineering, expanding interoperability and sharing of applications and data systems across agencies.

**Progress Made on Accomplishing CTO Goal 1:** A fundamental tenet of Geographic Information Systems (GIS) and its practitioners is the increased interoperability and sharing of geospatial information. The GIS program constantly seeks out and employs the latest hardware, software and data standards to accomplish this goal. The GIS discipline has always been at the forefront of leading-edge technology to improve delivery of geospatial information to its clients and customers, including more recently the general public. More than any other government operation, cooperation and coordination between public and private sectors has also been central to the philosophy of GIS.

**CTO Goal 2:** Develop and promote a wide breadth of online services which automate Government-to-Citizen (G2C), Government-to-Business (G2B), and Government-to-Government (G2G) transactions.

**Progress Made on Accomplishing CTO Goal 2:** The WV GIS Technical Center at WVU and the Technical Applications and GIS (TAGIS) office at DEP currently offer web-based mapping and data delivery services. The Technical Center is the State clearinghouse node for the National Spatial Data Infrastructure (NSDI). Other state agencies are considering offering internet or web-based GIS services. Links are also made to many Federal agencies, academic institutions, non-profit organizations, and private sector companies and consultants who also offer online GIS services.

**CTO Goal 3:** Deliver online services via an integrated e-Portal which implements a single "face" to government.

**Progress Made on Accomplishing CTO Goal 3:** In addition to the websites mentioned in Goal 2 above, a link to GIS services on the State Web Page (or proposed e-Portal) is needed to promote the dissemination and use of geospatial information and services offered by various State agencies, as well as Federal

agencies and other organizations. This Goal is outside the perview of any one agency currently employing GIS and must be a high-level implementation accomplished through the GOT or other executive level office.

**CTO Goal 4:** Support the development of advanced high-speed (broadband) communications infrastructures and leverage the industry trend toward converged voice, data, and video communications.

**Progress Made on Accomplishing CTO Goal 4:** Due to the large size of geospatial data files and analytical capabilities, GIS out of necessity has always been on the leading edge of using emerging telecommunications technologies such as FTP, TCP/IP, and the use of the Internet and World Wide Web. As geospatial information increasingly becomes imbedded and integrated in common technologies such as cell phones, wireless modems, PDA's, vehicle navigation systems, etc., the need for bigger and faster mechanisms to move this data and information is crucial.

**CTO Goal 5:** Develop a consistent technology architecture and standards baseline across all agencies and divisions.

**Progress Made on Accomplishing CTO Goal 5:** The State GIS program actively pursues the use of the latest software and hardware platforms. Most agencies use the industry leading ESRI ArcInfo/Arcview software. The State GIS program adheres to the data and metadata standards promulgated by the Federal Geographic Data Committee (FGDC). The State GIS program is in the process of developing statewide standards for the development of tax parcel (cadastral), E-911 mapping and addressing, hydrologic and watershed delineation, and other types of geospatial data at the state/county/local level. By promoting and adhering to such standards, the State is fully involved in the development of the NSDI and the vertical integration of GIS data and applications from the local to the Federal level, and vice versa.

**CTO Goal 6:** Provide safeguards for system security, disaster recovery, and privacy protection throughout the statewide data system.

**Progress Made on Accomplishing CTO Goal 6:** The GIS program is not currently "centralized" nor linked directly to the statewide data system. Individual agencies employ their own system maintenance procedures to insure security, archiving and protection of relevant GIS data and computer resources.

**CTO Goal 7:** Develop and sustain a high-tech workforce (public & private) and improve the technical literacy of the general public.

**Progress Made on Accomplishing CTO Goal 7:** GIS technical personnel have traditionally been leading proponents of "cutting edge" technologies such as use of the Internet and World Wide Web, client/server architecture, remote sensing and visualization software, etc. In addition to their geographic training, GIS personnel also frequently have one or more "traditional" IT/IM skills in database management, networking or systems management (UNIX or NT), programming (PERL, VB, etc.) making them "jacks of all trades." State GIS personnel participate in professional development and training courses (Oracle, ArcInfo, etc.) and frequently attend professional conferences and workshops. Peer-to-peer interaction and knowledge exchange is well developed among the GIS personnel in the State. Many often share their knowledge with other state agencies without GIS personnel, as well as local and county officials, and often make presentations on GIS at public meetings and other events. Along with many other IT/IM classifications, pressure must be brought

to bear on the Division of Personnel to modernize its GIS classifications and bring salary levels in line with other states and the private sector to insure the hiring and retention of the most talented workforce.

**CTO Goal 8:** Establish technology programs focused on expanding the high-tech economy of West Virginia.

**Progress Made on Accomplishing CTO Goal 8:** GIS applications are increasingly necessary to integrate and analyse the complex demographic, infrastructure, economic development, public safety and environmental parameters crucial to expanding and sustaining the State's economy, whether traditional or high-tech. The GIS program has constantly tried to encourage academic and professional development within the state college and university system and the expansion of GIS curricula and training opportunities. This Goal is outside the perview of any one agency currently employing GIS and must be a high-level implementation accomplished through the GOT or other executive level office.

**CTO Goal 9:** Improve enterprise-level strategic project planning, budgeting, and tracking.

**Progress Made on Accomplishing CTO Goal 9:** The State GIS program fully participates in the development and implementation of high-level technical strategic planning and decision-making at the state level. As fiscal agent for the State GIS program, the WV Geological Survey is recognized consistently for its high level of fiscal management and project performance. This Goal is outside the perview of any one agency currently employing GIS and must be a high-level implementation accomplished through the GOT or other executive level office.

## Current FY IT Expenditures and Estimates

**Agency:** Bureau of Commerce--Geological and Economic Survey-GIS Coordinator's Office

	2004-2005	2005-2006	2006-2007
Consulting	0.00	0.00	0.00
Maintenance	1,000.00	0.00	0.00
Training	0.00	0.00	0.00
Equipment	15,000.00	0.00	0.00
Software	1,200.00	0.00	0.00
Personnel	115,000.00	115,000.00	115,000.00
Voicecomm	500.00	500.00	0.00
DataComm	700.00	700.00	0.00
Other	0.00	0.00	0.00

**Additional Questions:**

What is your 2004-2005 total expenditures for IT Salaries and Benefits? 115000  
 What is your 2004-2005 total expenditures for IT Contracts? 0  
 What is your annual IT Budget (2004-2005)? 150000  
 What is your budget for Major IT Capital Purchases? 0

Do you have IT staff in the field? No  
 What word processing software is used by your office? MS Word; Wordperfect  
 What operating system is your standard? Windows XP Pro  
 Are you planning to add or modify a digital scanning system in the next year? no

**Phone Systems/VoIP**

Are you planning to replace your phone system in the next year? no  
 Does your agency use VoIP? no  
 Are you planning any VoIP installations in the next year? no  
 Are you planning to purchasing a new server this year? no How many? 0  
 For what purpose(s)?  
 Does your agency have Video Conferencing Units? no Are you planning VC installations in 2005? no

**State of West Virginia  
 Agency Project Information**

Project #2

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: State GIS Technical Center at WVU

Project Classification: In-Progress

Project Start Year: 1996

Project End Year: 2006

Project Priority: 4

Project Description: Headquartered at WVU GIS Technical Center, this GIS Technical Center provides "one-stop shopping" for geospatial data in WV. The center website was substantially improved during FY2001 and garnered significant recognition, including WV State website of the month for June 2001. The site contains links and access to distributed GIS databases at state agencies and other organizations within the state and elsewhere. Also contains "metadata" index of available data for WV, and allows for on-line map inquiries, interactive "maps-on-demand" and data downloads via the Internet. \*Note: State level appropriations for the Tech Center were cut by 30% in FY97. Improvement requests to support this project were not funded or allowed in FY98, FY99, FY00, and FY01. The Tech Center previously received a federal grant in 1997 to establish a node for the National Spatial Data Infrastructure (NSDI). Future grant opportunities will also be explored in addition to state level funding to maintain the site. \*Requested %10 budget reductions for the FY04 state budget will have an adverse significant impact on the WVGISTC to create, archive, and distribute GIS data to state agencies and other customers.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 3 Supports GOT Goal 4 Supports GOT Goal 8

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be	FY2003-	State	FY2004-	State	FY2005-	State	FY2006-	State
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entered in Thousands of Dollars	04	Funds	05	Funds	06	Funds	07	Funds
Total	\$ 325	\$ 325	\$ 300	\$ 300	\$ 275	\$ 275	\$ 250	\$ 250
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 5.0

Statutory Change Required? Yes

Statutory Change Description: None specific; public policy issues regarding data liability, data privacy, data copyrights, public domain, and cost recovery.

Public Access Allowed? Yes

Public Access Description: Yes. Via Internet/WWW and TCP/IP/FTP protocols.

#### Platform Type

Enterprise Server

Mid-Tier

Personal Computer

Handheld

Platform Other: Unix Server, RAID, Client/Server Network, PC Workstations

#### Application Type

Software Development

Hardware Deployment

Network Deployment

Training

Data Collection

Electronic Commerce

App. Type Other: Web-based mapping and geospatial services.

#### Technology To Be Used

EDI: Electronic Data Interchange

Client Server

GIS

Internet/Intranet

Imaging

Document Management

Data Warehousing

Technology Other: Web-based mapping and spatial querying.

### Project Resource Requirements

Hardware Requirements: Unix server and RAID storage.

Software Requirements: RDBMS combining turn-key (USGS) and commercial (Example: Oracle) systems.

### Telecommunications Impact

Telecommunications Impact--Voice:

Telecommunications Impact--Data: GIS data and metadata standards (to be determined).

Telecommunications Impact--Other: High speed access and throughput (Example: T1, ATM).

## State of West Virginia Agency Project Information

Project #3

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: Expansion of GIS Coordinator Office

Project Classification: On Hold

Project Start Year: 2002

Project End Year: 2005

Project Priority: 8

Project Description: Expand the GIS Coordinator facilities and staff to include additional administrative and technical support for GIS users in the state. \*Note: Improvement requests to support this objective were not funded or allowed in FY98, FY99, FY00, FY01. Budget numbers below reflect requests above the current funding appropriation level to support additional staff (2 FTEs). Addendum: In FY2003 one FTE position (an Executive Assistant) was added to the office as an employee of the WVGES. In an intergovernmental agreement with the WV Statewide Addressing and Mapping Board (WVSAMB), the EA works 49% for the WVSAMB. See also Project 9.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 5 Supports GOT Goal 7 Supports GOT Goal 8 Supports GOT Goal 9

### Project Expenses

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105
Hardware	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 0	\$ 0
Software	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 0	\$ 0
Personnel	\$ 90	\$ 90	\$ 90	\$ 90	\$ 90	\$ 90	\$ 90	\$ 90
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0



Training	\$ 0	\$ 0	\$ 5	\$ 5	\$ 5	\$ 5	\$ 0	\$ 0
Communications	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 1	\$ 1
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 2.0

Statutory Change Required? Yes

Statutory Change Description: Renew Executive Order mandating GIS program.  
Review administrative location of GIS Coordinator's office. Propose legislation for permanent creation of GIS Coordinator office.

Public Access Allowed? Yes

Public Access Description: Yes. Via Internet/WWW and traditional methods such as reports, publications, phone requests, etc.

### Platform Type

Mid-Tier

Personal Computer

Handheld

Platform Other:

### Application Type

Software Development

Network Deployment

Data Collection

App. Type Other: GIS project management.

### Technology To Be Used

Client Server

GIS

Internet/Intranet

Document Management

Data Warehousing

Interactive Video

Technology Other:

### Project Resource Requirements

Hardware Requirements: Unix or high-end PC server, RAID storage, and networked PCs.

Software Requirements: WEb-based mapping; database; project management.

### Telecommunications Impact

Telecommunications Impact--Voice: Additional phone lines.

Telecommunications Impact--Data: Expanded Internet services and spatial data

transfer.

Telecommunications Impact--Other: High speed access and throughput (Example: T1,ATM,OS3).

**State of West Virginia  
Agency Project Information**

Project #4

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: Mineral Lands Mapping Program

Project Classification: In-Progress

Project Start Year: 1996

Project End Year: 2006

Project Priority: 2

Project Description: Continuation and acceleration of Mineral Lands Mapping Program (MLMP) to map natural resource land holdings in the state, especially coal resources. The project is a cooperative collaboration between three state agencies, the WV Geological Survey, WV Tax and Revenue, and West Virginia University. \*For current project expenses see information supplied by Geological Survey (Projects 1 and 6). \*Note: Improvement requests to support this objective were not funded in FY98 and FY99. A \$120,000 improvement request was funded to support the Coal Bed Mapping Project of the MLMP in FY2000. Departmental improvement requests were not allowed for FY2001. Requested %10 mandatory reductions in FY04 budget will have significant adverse impact on progress of the MLMP to complete its objectives by the end of FY06. \*Note: Total budget numbers presented below reflect actual and requested totals for the years listed for the entire project. Detailed numbers are provided in the WV Geological Survey's general portion of the IT Strategic Plan.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 5 Supports GOT Goal 7 Supports GOT Goal 8 Supports GOT Goal 9

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 1727	\$ 1727	\$ 1627	\$ 1627	\$ 1427	\$ 1427	\$ 1227	\$ 1227
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 5.0

Statutory Change Required? Yes

Statutory Change Description: May require changes to existing regulations regarding surveying and property mapping to incorporate digital maps; also changes to existing tax valuation formula for coal resources and other minerals; release of private coal company information to improve accuracy of coal bed maps and tax information.

Public Access Allowed? Yes

Public Access Description: Yes. Via Internet/WWW and traditional analog maps, fax/phone information requests, reports, and publications, etc.

### Platform Type

Enterprise Server

Mid-Tier

Personal Computer

Handheld

Platform Other: Project incorporates all

### Application Type

Software Development

Data Collection

App. Type Other:

### Technology To Be Used

EDI: Electronic Data Interchange

Client Server

GIS

Internet/Intranet

Imaging

Document Management

Data Warehousing

Technology Other:

### Project Resource Requirements

Hardware Requirements: Combination of Unix workstations (Sun, SGI), PC (Windows, NT), and mainframe database applications. Migration from Unix to Windows or Linux platforms. RAID and other massive storage arrays.

Software Requirements: GIS software including ARCInfo, Arcview, Mapinfo, scanning and vectorizing tools, 3D visualization software, specialized geologic mapping tools, etc.

### Telecommunications Impact

Telecommunications Impact--Voice: Phone and fax communication as needed.

Telecommunications Impact--Data: Incorporation of complex RDBMS capabilities

(Example: Oracle); industry and federal spatial data and metadata standards.

Telecommunications Impact--Other: High speed data access and throughput (T1, OS3, ATM, etc)

## State of West Virginia Agency Project Information

Project #5

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: GIS Education

Project Classification: In-Progress

Project Start Year: 1998

Project End Year: 2006

Project Priority: 9

Project Description: Through GIS coordinator, GIS Technical Center at WVU, other state GIS personnel, and participation of GIS vendors, provide seminar/workshops, technical support, and training to state, county, and local officials interested in implementing GIS technology. Also, develop GIS educational programs in K-12 and higher education. Example, sponsor a "GIS Camp" like "GES Rock Camp, " i.e., use GIS for geography learning and train teachers in GIS use and methods; develop statewide agreements with major GIS vendors to offer educational incentives or discounts for educational purposes; create network of college/university GIS "centers of expertise" (WVU, Marshall, Glenville, Concord, etc.) to assist local users in GIS implementation. In FY2001 the above university programs also significantly expanded their GIS programs and curricula. For example, Glenville conducted a web-based GIS class through Penn State University. The GIS Technical Center also conducted a series of well-attended workshops in conjunction with the 2001 GIS Forum and Exhibition in Morgantown, and the same in 2004. \*Note: Improvement requests to support this objective were not funded in FY98 and FY99. No improvement request was made in FY2000 and departments were not allowed to make improvement requests over current levels for FY2001 and FY2002. Numbers in project expenses reflect improvement requests above current level funding. Proposed mandatory 10% reductions in the FY04 will have a significant adverse impact on GIS education capabilities.

Supports GOT Goal 7 Supports GOT Goal 8

### Project Expenses

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 100	\$ 50	\$ 100	\$ 50	\$ 100	\$ 50
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 1.0

Statutory Change Required? No  
 Statutory Change Description:

Public Access Allowed? Yes

Public Access Description: Yes, Via Internet/WWW and traditional sources such as reports, publications, maps, etc.

#### Platform Type

Enterprise Server

Mid-Tier

Personal Computer

Platform Other:

#### Application Type

Software Development

Hardware Deployment

Network Deployment

Training

Data Collection

Electronic Commerce

App. Type Other:

#### Technology To Be Used

EDI: Electronic Data Interchange

Client Server

GIS

Internet/Intranet

Imaging

Document Management

Data Warehousing

Interactive Video

Telephony

Technology Other: Web-based instruction; video and satellite distance learning

#### Project Resource Requirements

Hardware Requirements: Use and expand facilities at WVU GIS Tech Center.

Software Requirements: Expand capabilities at WVU, WVNET, etc.

#### Telecommunications Impact

Telecommunications Impact--Voice: Associated phone lines.

Telecommunications Impact--Data: High speed data access and throughput (T1/DS3, etc.).

Telecommunications Impact--Other: Video conferencing for remote site training.

## State of West Virginia Agency Project Information

Project #6

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: Mineral and Economic Resources Program (MERP)

Project Classification: On Hold

Project Start Year: 2003

Project End Year: 2006

Project Priority: 6

Project Description: Expansion of MLMP program scope beyond coal resources to include other natural resources, such as oil and gas reserves, managed timber, quarries, etc. Also, start to integrate MLMP data with other external databases for economic forecasting and modeling, environmental monitoring, i.e., WV Development Office, Tax Department, DNR, DEP, etc. See also GIS Coordinator Project 4. Projected expenses reflect cost shares with other federal agencies such as EPA, USGS, USFS, etc, mainly for data development, systems integration and applications design. Proposed project expenses reflect improvement requests above current level funding for the MLMP.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 5 Supports GOT Goal 7 Supports GOT Goal 8

### Project Expenses

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 250	\$ 200	\$ 250	\$ 200
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? Yes

Statutory Change Description: see GIS Coordinator Project 4

Public Access Allowed? Yes

Public Access Description: Yes. Via Internet/WWW and traditional sources such as reports, publications, etc.

#### Platform Type

Enterprise Server

Mid-Tier

Personal Computer

Platform Other:

#### Application Type

Software Development

Hardware Deployment

Network Deployment

Data Collection

App. Type Other:

#### Technology To Be Used

EDI: Electronic Data Interchange

Client Server

GIS

Internet/Intranet

Imaging

Document Management

Data Warehousing

Technology Other: Web-based maps and spatial querying.

#### Project Resource Requirements

Hardware Requirements: Combination of networked Unix client servers and workstations, PCs and some mainframe applications.

Software Requirements: Upgrades to current software (ArcInfo, Microstations, etc.).

#### Telecommunications Impact

Telecommunications Impact--Voice: Phone/fax capabilities as needed.

Telecommunications Impact--Data: High speed access and throughput (T1, DSC, etc.), RDBMS servers, Internet mapping.

Telecommunications Impact--Other:

### **State of West Virginia Agency Project Information**

Project #7

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: GIS at County/Local Level

Project Classification: On Hold

Project Start Year: 2002

Project End Year: 2005

Project Priority: 7

Project Description: Expansion of GIS capabilities at the county and local levels; increased exchange and viewing of data through Internet; public access to GIS information. Example: county assessors' offices, libraries, real estate, crime mapping, emergency response, etc. Integration with local economic development agencies, realtors, internet service providers, communications services, etc. Primarily funded through grants, corporate sponsorship and county/state cost-sharing. Currently there is no state-level funding specifically appropriated for this effort. It is recommended that these costs be a capital level expenditure or a state funded grant program to the counties. Costs are estimated at \$100,000 per county start-up, mainly for data development, system integration and applications design. (N=55 counties), then \$50,000/year average maintenance cost. See also Project 9. Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 5 Supports GOT Goal 7 Supports GOT Goal 8

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2000	\$ 2000	\$ 2000	\$ 2000
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? Yes

Statutory Change Description: Amendments/modifications to local statutes regarding privacy, data exchange, and cost recovery.

Public Access Allowed? Yes

Public Access Description: Yes. Via Internet/WWW and traditional means such as reports, publications, phone requests, etc.

**Platform Type**

Enterprise Server

Mid-Tier

Personal Computer

Platform Other:



### Application Type

Software Development  
Hardware Deployment  
Network Deployment  
Training  
Data Collection  
Electronic Commerce  
App. Type Other:

### Technology To Be Used

EDI: Electronic Data Interchange  
Client Server  
GIS  
Internet/Intranet  
Imaging  
Document Management  
Data Warehousing  
Interactive Video  
Technology Other: Web-based mapping and spatial querying.

### Project Resource Requirements

Hardware Requirements: Distributed client/server and stand alone systems (PCs and servers).

Software Requirements: Distributed network of client/server modules and stand-alone applications.

### Telecommunications Impact

Telecommunications Impact--Voice: Phone/fax as needed.

Telecommunications Impact--Data: High speed connectivity at local/county offices (T1, DS3, etc.).

Telecommunications Impact--Other: Tele- and video-conferencing; information "kiosks".

## **State of West Virginia Agency Project Information**

Project #8

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: GIS for Virtual Tourism

Project Classification: On Hold

Project Start Year: 2002

Project End Year: 2006

Project Priority: 10

Project Description: GIS maps and data provide 3D backdrops and simulated landscapes for Internet/Web access to tourist information about WV state parks, rest

stops, and other sites, using informational kiosks linked to the Internet. Example: make online lodge reservations, "visualize" a trail and its scenic content or difficulty, download and print a map, etc. Primarily developed under private sector contract, jointly funded by Dept of Tourism, DNR, Parkways, Development Office and other agencies involved in tourist industry; involves participation of High Tech Consortium, Hatfield-McCoy Trail Coalition, WV Development Office, and other interested parties. Partially funded by economic development grants, private sector contributions, etc. Projected expenses do not reflect current level appropriations. Projected expenses reflect costs for data development, system integration, and application design. Out-year costs reflect efficiencies in the implementation of the system with perhaps some cost-recovery and low maintenance associated with a largely automated web-based system. Work is anticipated to be outsourced largely to private sector. Proposed mandatory FY04 budget reductions will effectively halt any development of this application.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 3 Supports GOT Goal 8

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 100	\$ 50	\$ 100	\$ 50
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 100	\$ 50	\$ 100	\$ 50
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? No  
 Statutory Change Description:

Public Access Allowed? Yes  
 Public Access Description: Yes. Via Internet/WWW.

**Platform Type**

- Enterprise Server
- Mid-Tier
- Personal Computer
- Platform Other:

**Application Type**

Software Development  
Hardware Deployment  
Network Deployment  
Data Collection  
Electronic Commerce  
App. Type Other: Web-based mapping and location based services (LBS)

### Technology To Be Used

EDI: Electronic Data Interchange  
Client Server  
GIS  
Internet/Intranet  
Imaging  
Document Management  
Data Warehousing  
Wireless Communications  
Interactive Video  
Technology Other: Virtual Reality and 3D visualization; web-based mapping and spatial querying (PDA's)

### Project Resource Requirements

Hardware Requirements: Unix client/server or high-end PC workstation.

Software Requirements: GIS-based landscape simulation and database.

### Telecommunications Impact

Telecommunications Impact--Voice: Phone/fax lines as needed.

Telecommunications Impact--Data: High speed access and throughput (T1, OS3, ATM); wireless.

Telecommunications Impact--Other: Tele- and video-conferencing; data security for on-line reservations and credit card transactions, information kiosks, etc.

## **State of West Virginia Agency Project Information**

Project #9

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: WV Statewide Addressing and Mapping Board

Project Classification: In-Progress

Project Start Year: 2002

Project End Year: 2007

Project Priority: 1

Project Description: Project includes base-mapping, road centerline delineation, road naming, and creation of city-style street address ranges for all West Virginia counties including rural areas. Work will include completion of large scale (1"-400' and 1"-100') digital orthophotography for the state as well as perhaps use of new high

resolution satellite imagery (sub-meter or better). \*Note: anticipated costs for this project are included in the GIS coordinator category, but the program would be located in an appropriate agency to be determined at a later time, not housed with the GIS Coordinator. This would be a cooperative project with the county 911 directors, the WV E911 Council, other county officials (commission, assessor, etc), the cooperation of other state agencies such as WVDOT, PSC and OES charged with public safety responsibilities, with private sector partnering from the telecommunications sector (e.g., Verizon). Projected costs are estimated based on an estimated \$30 Million total cost for the whole state over 5 years, mainly for data collection, processing of new aerial photography, detailed map compilation, and database construction. Addendum (2003): In 2001 the WV Legislature enacted SB 460, which created an official body, the WV Statewide Addressing and Mapping Board, to oversee the proposed project. The Board was appointed by Governor Wise and became operational on November 1, 2002. The WV GIS Coordinator, Craig Neidig, was appointed Chair. As part of a rate restructuring agreement with the WV Public Service Commission, Verizon agreed to commit \$15 million to support the project through 2005. Per legislative mandate, the Board has hired a Project Management firm, has issued an RFQ for new aerial photography, digital orthoimagery, and planimetric mapping, has drafted legislative rules, and is working with state agencies, counties, federal agencies and other identified "stakeholders" to define the project as the next generation base map for West Virginia. Administrative support is being provided for the Board through the GIS Coordinator and the WV Geological Survey on a reimbursable basis (see project 3). For more information go to <http://www.addressingwv.org> Addendum (2004): Contracted work for aerial photography and digital orthoimagery was completed in 2004. Digital mapping data was distributed to counties and other stakeholders on DVD and via FTP access. Addressing contract work was initiated. Various educational outreach and public relations efforts were completed. Long term system design and maintenance strategy is being developed. Completed cooperative funding agreements with US Geological Survey, US Dept. of Agriculture, WV Division of Highways for data development.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 4 Supports GOT Goal 5 Supports GOT Goal 6 Supports GOT Goal 7

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 2000	\$ 0	\$ 4000	\$ 0	\$ 4000	\$ 0	\$ 3000	\$ 0
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 2000	\$ 0	\$ 4000	\$ 0	\$ 4000	\$ 0	\$ 3000	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? Yes

Statutory Change Description: Federal FCC Regulations will require wireless cellphone subscribers to be identified and located by triangulation to within 30 meters by late 2001. Current mapping and addressing data in West Virginia will not support this mandate. During the 2001 Legislative session, SB 460 was passed which authorizes creation of a statewide E-911 mapping and addressing board to develop an RFP for contracting services and to develop a long range E-911 management plan. Previously, the legislature delegated responsibility for E-911 implementation to the individual county commissions. They in turn have delegated mapping and addressing responsibilities to the E-911 directors in each county. This has led to chaos at the state level since there is no coherent and unified approach in the counties. Money collected from 911 tariffs is not being spent wisely nor effectively in most counties and implementation is lagging. The current situation is untenable. RECOMMENDATION: Currently the WV E-911 Council is an ad hoc organization with no authority and no mandate. The Council should be formally recognized at the State level, either as a Board (like Engineers, etc) or an adjunct of the WV Association of Counties or some other government body. This would require some founding legislation or other action (ie., Executive Order). The Council should be housed in or at least work in conjunction with the Dept of Military Affairs and the Office of Emergency Services to be most effective. Most states have a centralized office of emergency response which includes county E-911 representation.

Public Access Allowed? Yes

Public Access Description: Maps and address information will be available to county 911 directors, emergency management officials, key state agencies involved in public safety (OES, PSC, State Police, etc) and federal disaster officials (FEMA, National Guard) at first. Due to privacy and safety concerns public access will be limited at first. This information may be made available to the general public at some point in time. As yet how and when this would happen is not known.

Platform Type

Enterprise Server

Mid-Tier

Personal Computer

Handheld

Platform Other:

Application Type

Software Development

Hardware Deployment

Network Deployment

Training

Data Collection

App. Type Other: Location Based Services (LBS)

### Technology To Be Used

EDI: Electronic Data Interchange  
Client Server  
GIS  
Internet/Intranet  
Imaging  
Document Management  
Data Warehousing  
Wireless Communications  
Technology Other:

### Project Resource Requirements

Hardware Requirements: Client/Server networked environment (3-5 workstations)

Software Requirements: GIS Mapping, Emergency Dispatch, Routing and Tracking, RDBMS (Oracle or other)

### Telecommunications Impact

Telecommunications Impact--Voice: 5 dedicated phone lines

Telecommunications Impact--Data: High speed Internet access (T1, OS3, ATM)

Telecommunications Impact--Other: Cellular (wireless) and radio connections; Global Positioning System (GPS)

## **State of West Virginia Agency Project Information**

Project #10

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: Land Records Modernization Program (LRMP)

Project Classification: On Hold

Project Start Year: 2002

Project End Year: 2006

Project Priority: 5

Project Description: As an outgrowth of the Mineral Lands Mapping Program (see projects above), the Land Records Modernization Program would be to develop the next generation of computerized tax parcel maps and property tax information for the State. In conjunction with the proposed E-911 program (see Project 9) the development of new GIS information and related databases and procedures would modernize county information in West Virginia that would put it on a par or above other projects of this type underway in the United States. The program could capitalize on and intergrate with other technologies in place or under development at the county level, such as the Tax Department's Integrated Assessment System (IAS) and the state ATM network (Courthouse of the Future). \*Estimated Project Expenses are based on a total \$6 million dollar figure to complete tax parcel conversion for the state. Addendum: in FY03 the Department of Tax and Revenue allocated \$120,000 to support digital parcel development in four counties. Proposed mandatory

reductions in FY04 budget will eliminate or adversely impact further development in the foreseeable future. Options such as cost recovery, bonds, private sector support should be considered for future action.

Supports GOT Goal 1 Supports GOT Goal 2 Supports GOT Goal 5 Supports GOT Goal 8

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2000	\$ 1000	\$ 2000	\$ 1000
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2000	\$ 1000	\$ 2000	\$ 1000
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 5.0

Statutory Change Required? Yes

Statutory Change Description: Requires review of State Code regarding privacy and liability issues with regard to access of property tax information, deed recordation and transfer, property survey requirements, cost recovery for sale of digital maps, display of property ownership information on the Internet/Web.

Public Access Allowed? Yes

Public Access Description: Probably limited, Via Internet/Web access to map and property account information.

**Platform Type**

- Enterprise Server
- Mid-Tier
- Personal Computer
- Handheld
- Platform Other:

**Application Type**

- Software Development
- Hardware Deployment
- Network Deployment
- Training
- Data Collection

Electronic Commerce  
App. Type Other:

### Technology To Be Used

BPR: Business Process Re-Engineering  
EDI: Electronic Data Interchange  
Client Server  
GIS  
Internet/Intranet  
Imaging  
Document Management  
Data Warehousing  
Technology Other: Global Positioning Systems (GPS) and Computer Assisted Mass Appraisal (CAMA)

### Project Resource Requirements

Hardware Requirements: Client / Server environment, massive storage array

Software Requirements: GIS and relational database

### Telecommunications Impact

Telecommunications Impact--Voice: None anticipated.

Telecommunications Impact--Data: High speed networking for large data transfer.

Telecommunications Impact--Other:

## **State of West Virginia Agency Project Information**

Project #11

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: High Resolution Elevation Program (Hi-REP)

Project Classification: In-Progress

Project Start Year: 2003

Project End Year: 2006

Project Priority: 3

Project Description: The objective of this program would be to generate new high resolution digital elevation data for the State of West Virginia. The complex terrain and changing landscape of West Virginia require improved currency and resolution of digital elevation data than is currently available for the State (e.g., USGS Digital Elevation Models (DEMs), and hysography (contours) derived from USGS Digital Line Graphs (DLGs). Existing USGS datasets have a x.y resolution of 10-30 meters (30-100 ft) and vertical accuracy from 3-7 meters (10-20 ft). New and improving technologies such as LiDAR and IFSAR could improve resolutions from 1-2 meters horizontal and between 25cm and 1 meter vertical. More importantly the new technology is all digital so it can be collected, processed and the changes made rapidly, as opposed to traditional methods needed survey and photogrammetric



methods which are labor intensive, time consuming and tend to remain static for a long time. Limitations of the existing data drastically impair analysis for things like hydrologic studies and watershed delineation, flood forecasting and sedimentation/runoff calculations, and for monitoring the impacts of surface mining, particularly mountaintop removal and landfill operations. Improved terrain data would also assist in better definition of landmarks (such as ridgelines and streams) which define census, voting, county, and legislative areas. Legislative Services has identified this as a problem in the state. Funding for the program would come from a cooperative cost-sharing with other Federal agencies (USGS, FEMA, COE, etc.).

\*Total project costs to remap and densify the elevation data for the entire state are estimated at between \$15 and \$30 million dollars. Due to the preliminary nature of this proposed project only summary figures are provided below. Addendum (2003): Various new technologies such as Lidar, IFSAR, and GeoSAR have been investigated by the GIS Coordinator's office, WV DEP, and other agencies. However the costs are prohibitive at this time for more than localized applications related to flood plain mapping, environmental studies, etc. Addendum (2004): A cooperative project to use the high resolution mass point and breakline data developed for the Statewide Addressing project (see Project 9) is being developed with stakeholders such as the US Geological Survey and WV GIS Technical Center. The resultant product would be an updated 1/3 arcsecond (3-meter) DEM of the state. Currently most of the state is 30-meter or 10-meter DEMs derived from USGS 1:24000 quads. Supports GOT Goal 1 Supports GOT Goal 5

### Project Expenses

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1000	\$ 500	\$ 1000	\$ 500
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1000	\$ 500	\$ 1000	\$ 500
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? Yes

Statutory Change Description: As ridgelines and stream features determine political and jurisdictional boundaries for things like voting districts, WV Code would have to be examined and sections modified to incorporate changes in technology.

Public Access Allowed? Yes

Public Access Description: New elevation data would be available via the internet and web.

### Platform Type

Enterprise Server  
Mid-Tier  
Personal Computer  
Handheld  
Platform Other:

### Application Type

Data Collection  
App. Type Other:

### Technology To Be Used

Client Server  
GIS  
Internet/Intranet  
Data Warehousing  
Wireless Communications  
Technology Other: Global Positioning Systems (GPS); Remote sensing (satellite imagery, LIDAR, IFSAR, etc.)

### Project Resource Requirements

Hardware Requirements: Large capacity server, massive storage, high-speed networking.

Software Requirements: GIS software, compression software.

### Telecommunications Impact

Telecommunications Impact--Voice:

Telecommunications Impact--Data: High-speed network to handle large size and volume of digital elevation files.

Telecommunications Impact--Other:

## **State of West Virginia Agency Project Information**

Project #12

Agency: Geological and Economic Survey-GIS Coordinator's Office

Project Name: Statewide Hazard Mitigation Planning

Project Classification: Completed

Project Start Year: 2003

Project End Year: 2004

Project Priority: 1

Project Description: As part of a statewide cooperative effort and outgrowth of the statewide flood management task force and Homeland Security initiatives, the GIS Coordinator participated in discussions to develop and implement a comprehensive

statewide hazard mitigation planning process using GIS as a core component of the system. No direct IT fiscal or programmatic impacts are anticipated as a result of this project to the coordinator's office.

Supports GOT Goal 5 Supports GOT Goal 9

**Project Expenses**

All values are shown in **Thousands** of Dollars

All values should be entered in Thousands of Dollars	FY2003-04	State Funds	FY2004-05	State Funds	FY2005-06	State Funds	FY2006-07	State Funds
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Hardware	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Software	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contracted Services	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Training	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Communications	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

# of New FTE Requirements: 0.0

Statutory Change Required? No

Statutory Change Description:

Public Access Allowed? No

Public Access Description:

Platform Type

Platform Other:

Application Type

App. Type Other:

Technology To Be Used

Technology Other:

Project Resource Requirements

Hardware Requirements:

Software Requirements:

Telecommunications Impact

Telecommunications Impact--Voice:

Telecommunications Impact--Data:

Telecommunications Impact--Other:

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