

West Virginia Geological Survey  
GIS Coordinator's Office  
State Broadband Data Proposal  
Years 1 -2  
10/14/09

WVGES Budget

	<u>Total Two Years</u>	<u>YEAR 1</u>	<u>YEAR 2</u>
Salaries	\$96,720	\$48,360	\$48,360
Benefits	\$28,687	\$14,344	\$14,344
Travel	\$7,104	\$3,552	\$3,552
Vehicle Expense	\$5,280	\$2,640	\$2,640
Computer Supplies	\$2,000	\$1,000	\$1,000
Office Supplies	\$1,000	\$500	\$500
Software	\$25,000	\$20,000	\$5,000
Equipment	\$40,000	\$40,000	\$0
Indirect Cost	\$8,882	\$4,441	\$4,441
Total WVGES	<u>\$214,674</u>	<u>\$134,837</u>	<u>\$79,837</u>

Contractual Budget

	<u>Total Two Years</u>	<u>YEAR 1</u>	<u>YEAR 2</u>
Planning	<u>\$185,000</u>	\$150,000	\$35,000
Data Collection	<u>\$445,000</u>	\$325,000	\$120,000
Data Verification	<u>\$375,000</u>	\$300,000	\$75,000
Data Analysis	<u>\$100,000</u>	\$75,000	\$25,000
Data Maintenance	<u>\$85,000</u>	\$75,000	\$10,000
Total Contractual Two Years	<u>\$1,190,000</u>	<u>\$925,000</u>	<u>\$265,000</u>

**PROJECT TOTAL**                    \$1,404,674                    \$1,059,837                    \$344,837

In-kind Contribution                    \$420,000.00

**Total Budget (Including WV's In-Kind Contribution)**                    **1,824,673.58**

**West Virginia Geological Survey  
GIS Coordinator's Office  
State Broadband Data Proposal  
Year 1**

	<u>Total</u>
Salaries <sup>1</sup>	48,360.05
Benefits	14,343.68
Travel <sup>2</sup>	3,552.00
Vehicle Expense <sup>3</sup>	2,640.00
Computer Supplies	1,000.00
Office Supplies	500.00
Software	20,000.00
Equipment	40,000.00
Indirect Cost	<u>4,441.06</u>
	<u>134,836.79</u>

<u><sup>1</sup> Staff &amp; percentage of time:</u>	<u>Salaries</u>	<u>Benefits</u>
GIS State Coordinator - 25%	16,295.00	5,502.82
Office Assistant - 25%	<u>9,243.00</u>	<u>3,121.36</u>
	<u>25,538.00</u>	<u>8,624.18</u>

<b>WVDHSEM Staff</b>		
GIS Manager I - 10%	4,866.80	1,129.21
GIS Programmer Analyst II - 25%	10,329.00	2,249.52
GIS Technician - 25%	<u>7,626.25</u>	<u>1,767.28</u>
	<u>22,822.05</u>	<u>5,146.01</u>

<sup>2</sup> Current GSA CONUS rates : \$70 per day lodging, \$39 per day meals:  
Total lodging = \$70 x 24 overnights = \$1,680. Total Meals = \$39 x 48 field days = \$1,872.

<sup>3</sup> Current GSA POV rate: \$.55/mile: 48 travel days x 100 average miles/trip = \$2,640

WVDHSEM = West Virginia Division of Homeland Security and Emergency Management

**West Virginia Geological Survey  
GIS Coordinator's Office  
State Broadband Data Proposal  
Year 2**

	<u>Total</u>
Salaries <sup>1</sup>	48,360.05
Benefits	14,343.68
Travel <sup>2</sup>	3,552.00
Vehicle Expense <sup>3</sup>	2,640.00
Computer Supplies	1,000.00
Office Supplies	500.00
Software	5,000.00
Equipment	
Indirect Cost	<u>4,441.06</u>
	<u>79,836.79</u>

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WVDHSEM = West Virginia Division of Homeland Security and Emergency Management

**Computation of Personal Services, Employee Benefits  
Based on PSES-10  
Dated 5/14/09**

	<u>Salaries</u>	<u>Benefits</u>
GIS Coordinator	65,180.00	22,011.29
Office Assistant	36,972.00	12,485.44

POSITION	SALARY	FICA 0.0765	RETIREMENT 0.11	HEALTH	PERS FEE \$50/QTR	PEIA FEE \$50/YR
GIS MANAGER I	48,668.00	3,723.10	5,353.48	753.64	200.00	50.00
GIS PROG ANA II	41,316.00	3,160.67	4,544.76	13.87	200.00	50.00
GIS TECH	30,505.00	2,333.63	3,355.55	370.37	200.00	50.00
	71,821.00	6,056.73	8,709.03	1,124.01	400.00	100.00
	48,668.00	3,723.10	5,353.48	753.64	200.00	50.00
Salaries	71,821.00	25.00%	17,955.25			
Benefits	18,361.18	25.00%	4,590.30			
Salaries	48,668.00	10%	4,866.80			
Benefits	11,292.06	10%	1,129.21			

Salary and benefit amounts provided by the  
West Virginia Division of Homeland Security and Emergency Management

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L. Robert Kimball & Associates, Inc. (Kimball) has supplied the following work tasks and estimated costs. Below you will find a breakdown and summary of costs associated with the primary tasks of the broadband mapping project. The four primary phases of the project include data collection, data verification, data analysis and data maintenance. The costs and tasks cover a five-year period.

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During this phase of the project, the key tasks of gathering data, execution of NDAs, surveying broadband service providers and developing interactive mapping will be completed by Kimball. Kimball will begin the project by gathering relevant, existing broadband data from various sources in various formats. Information and data that will be collected ranges in subject matters including broadband, economic development, technology development, education, government, healthcare, etc. Kimball engages the provider community from the very outset as we work together to reach clarity and consensus as to why the maps are being developed, what data is required, how results will be displayed and who will be able to access the maps. The NDA process sets clear expectations on how data will transfer between project stakeholders. The provider surveys are then performed. The surveys will assist in collecting pertinent information from providers relating to questions involving past, current and future broadband development. This information will be the key to many determinations made throughout the project. A Web-based interactive mapping application will also be developed during this phase of the project. The interactive mapping application will give data providers an efficient way to supply Kimball and the State with needed broadband data and information.

Costs associated with this project phase will be high in year one of the broadband mapping project and lower in year two because the workflow for data gathering and maintenance will be clearly defined. Travel will be required during this phase of the project as trips to providers and project stakeholders will be necessary in executing the data gathering, NDA and provider surveys. Kimball will need to purchase general office supplies and limited hardware/software/equipment during this phase of the project to carry out project tasks. The estimated breakdown of costs for this phase of the project over a two-year period is as follows.

Task	Year One	Year Two
Data Gathering	\$100,000	\$10,000
NDA	\$50,000	\$10,000
Provider Surveys	\$100,000	\$75,000
Interactive Mapping	\$75,000	\$25,000
<b>Totals per Year</b>	<b>\$325,000</b>	<b>\$120,000</b>
<b>Total Phase Cost</b>	<b>\$445,000</b>	

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During this phase the project all key analysis tasks requested by the *National Telecommunications and Information Administration (NTIA)* through this grant application will be performed and associated mapping data created. These digital mapping data layers will be created to visually show broadband's presence in the State. Key aspects of determining geographic areas in which broadband service is available, technology used to provide broadband services in those areas, spectrum used for the provision of wireless broadband services, broadband service speeds, customer cost for broadband service and availability of broadband services for public schools, libraries, hospitals, universities and all public buildings will all be completed in this phase. Analysis for this project will be completed at either an address level, when possible, or Census block level. Final deliverables from this phase will be searchable by address. In addition, a report containing key findings of the analysis will be created. All data created will be shared with the NTIA and will be developed to best coordinate with adjoining states to aid in building the *National Broadband Map*.

Task	Year One	Year Two
Data Analysis	\$75,000	\$25,000
<b>Totals per Year</b>	<b>\$75,000</b>	<b>\$25,000</b>
<b>Total Phase Cost</b>	<b>\$100,000</b>	

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Looking at the future is key in assuring the right resources are in place to aid the growth of broadband technology in the State. Kimball will use U.S. Census 2000 data to identify demand-influencing factors including residential population, households, businesses, schools, hospitals and other demand points. Kimball will also detail the number of housing units, median income, educational attainment and racial characteristics within unserved areas. This demand-mapping task will aid the State on determining where resources will be most utilized. All of this information will be joined with other economic data and uploaded into a broadband assessment model that will be constructed for the project. The model created will aid the State on decision making with broadband planning and development by assessing supply/demand assessment, job creation/economic impact, cost assessment, demographic assessment and funding possibilities.

Limited travel will be required during this phase of the project. Kimball will need to purchase general office supplies and limited hardware/software/equipment during this phase of the project to carry out project tasks. The estimated breakdown of costs for this phase of the project over a two-year period is as follows.

Task	Year One	Year Two
Demand Mapping	\$25,000	\$10,000
Broadband Assessment Modeling	\$125,000	\$25,000
<b>Totals per Year</b>	<b>\$150,000</b>	<b>\$35,000</b>
<b>Total Phase Cost</b>	<b>\$185,000</b>	

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Phase	Year One	Year Two
Data Collection	\$325,000	\$120,000
Data Verification	\$300,000	\$75,000
Data Analysis	\$75,000	\$25,000
Data Maintenance	\$75,000	\$10,000
Broadband Planning	\$150,000	\$35,000
<b>Totals per Year</b>	<b>\$925,000</b>	<b>\$265,000</b>
<b>Total Project Cost</b>	<b>\$1,190,000</b>	

**WV Broadband Mapping & Planning Year Two**

Rate Table Rate2008\_Updated\_T61.xls

Task	Step	Unit Desc	Units	Min Per Unit	Hours	Empl Class Code	Rate	OT	Labor Cost	Multi Over-ride	Labor Effort	Expense Description	Exp Units	Expense Cost/Unit	Expense Cost	Multi Over-ride	Expense Effort	Total Step Cost	Total Step Effort	
Data Collection	Data Gathering \$10,000																			
	Project Management	hours	8	60	8	pm	\$42.22		\$338		\$1,218	mileage (2 trips)	800	\$0.58	\$464		\$567	\$802	\$1,773	
Data Collection \$120,000	GIS Programmer	hours	40	60	40	gdev	\$34.72		\$1,389		\$5,000	hotel	2	\$100.00	\$200		\$240	\$1,688	\$5,240	
	GIS Analyst	hours	40	60	40	sglech	\$19.17		\$767		\$2,760	per diem	4	\$35.00	\$140		\$168	\$807	\$2,928	
												office supplies	1	\$49.00	\$49		\$59	\$49	\$59	
	Non Disclosure Agreements (NDA) \$10,000																			
	Legal	hours	8	60	8	spim	\$48.61		\$389		\$1,400	office supplies	1	\$90.00	\$90		\$108	\$479	\$1,608	
	Project Management	hours	8	60	8	pm	\$42.22		\$338		\$1,218	postage	1	\$200.00	\$200		\$240	\$538	\$1,656	
	GIS Programmer	hours	32	60	32	gdev	\$34.72		\$1,111		\$4,000							\$1,111	\$4,000	
	GIS Analyst	hours	32	60	32	sglech	\$19.17		\$613		\$2,208							\$613	\$2,208	
	Clerical	hours	12	60	12	sglech	\$19.17		\$230		\$828							\$230	\$828	
	Provider Surveys \$75,000																			
	Project Management	hours	34	60	34	pm	\$42.22		\$1,436		\$5,168	office supplies	1	\$87.00	\$87		\$104	\$1,623	\$5,272	
	GIS Programmer	hours	160	60	160	gdev	\$34.72		\$5,556		\$20,000	postage	1	\$40.00	\$40		\$48	\$5,588	\$20,048	
	GIS Analyst	hours	240	60	240	sglech	\$19.17		\$4,600		\$16,560							\$4,600	\$16,560	
	GIS Analyst	hours	240	60	240	sglech	\$19.17		\$4,600		\$16,560							\$4,600	\$16,560	
	GIS Analyst	hours	240	60	240	sglech	\$19.17		\$4,600		\$16,560							\$4,600	\$16,560	
	Interactive Mapping \$25,000																			
	GIS Programmer	hours	200	60	200	gdev	\$34.72		\$6,944		\$25,000							\$6,944	\$25,000	
	Office	hour	0	60.00	0		N/A													
	Tech Support	hour	0	60.00	0		N/A													
	Administration	hour	0	60.00	0		N/A													
9999 Code To Be Assigned	Data Manipulation \$25,000																			
Data Verification \$75,000	Project Management	hour	19	60	19	pm	\$42.22		\$802		\$2,888	office supplies	1	\$27.00	\$27		\$32	\$829	\$2,920	
	GIS Analyst	hour	160	60	160	sglech	\$19.17		\$3,067		\$11,040							\$3,067	\$11,040	
	GIS Analyst	hour	160	60	160	sglech	\$19.17		\$3,067		\$11,040							\$3,067	\$11,040	
	Data Verification \$50,000																			
	Project Management	hour	40	60	40	pm	\$42.22		\$1,689		\$6,080	mileage (4 trips)	1600	\$0.58	\$928		\$1,134	\$2,617	\$7,104	
	GIS Programmer	hour	240	60	240	gdev	\$34.72		\$8,333		\$30,000	hotel	8	\$100.00	\$800		\$980	\$9,333	\$30,880	
	GIS Analyst	hour	160	60	160	sglech	\$19.17		\$3,067		\$11,040	per diem	16	\$35.00	\$560		\$672	\$3,627	\$11,712	
												office supplies	1	\$112.00	\$112		\$134	\$112	\$134	
	Office	hour	0	60.00	0		N/A													
	Tech Support	hour	0	60.00	0		N/A													
	Administration	hour	0	60.00	0		N/A													
9999 Code To Be Assigned	Project Management	hour	30	60	30	pm	\$42.22		\$1,267		\$4,560	office supplies	1	\$48.00	\$48		\$58	\$1,316	\$4,618	
Data Analysis \$25,000	GIS Programmer	hour	120	60	120	gdev	\$34.72		\$4,167		\$15,000							\$4,167	\$15,000	
	GIS Analyst	hour	78	60	78	sglech	\$19.17		\$1,495		\$5,882							\$1,495	\$5,882	

WV Broadband Mapping & Planning Year Two

Rate Table Rate2008\_Updated\_T61.xls

Task	Step	Unit Desc	Units	Min Per Unit	Hours	Empl Class Code	Rate	OT	Labor Cost	Mult Over-ride	Labor Effort	Expense Description	Exp Units	Expense Cost/Unit	Expense Cost	Mult Over-ride	Expense Effort	Total Step Cost	Total Step Effort						
#N/A		Clerical	hour	60	60	N/A	N/A																		
		Tech Support	hour	60	60	N/A	N/A																		
		Administration	hour	60	60	N/A	N/A																		
Data Maintenance \$10,000	project management	hour	12	60	12	pm	\$42.22		\$507		\$1,824	office supplies	1	\$117.00	\$117		\$140	\$624	\$1,964						
	GIS Programmer	hour	40	60	40	gdev	\$34.72		\$1,389		\$5,000							\$1,389	\$5,000						
	GIS Analyst - Data Collection	hour	22	60	22	sqtech	\$19.17		\$422		\$1,518							\$422	\$1,518						
	GIS Analyst - Data Process	hour	22	60	22	sqtech	\$19.17		\$422		\$1,518							\$422	\$1,518						
#N/A		Clerical	hour	60	60	N/A	N/A																		
		Tech Support	hour	60	60	N/A	N/A																		
		Administration	hour	60	60	N/A	N/A																		
Broadband Planning \$35,000	Demand Mapping \$10,000																								
	Project Management	hour	12	60	12	pm	\$42.22		\$507		\$1,824	office supplies	1	\$43.00	\$43		\$52	\$550	\$1,876						
	GIS Programmer	hour	36	60	36	gdev	\$34.72		\$1,250		\$4,600	printing	1	\$30.00	\$30		\$36	\$1,280	\$4,636						
	GIS Analyst	hour	52	60	52	sqtech	\$19.17		\$997		\$3,568							\$997	\$3,568						
	Broadband Assessment Modeling \$25,000																								
	Project Management	hour	10	60	10	pm	\$42.22		\$422		\$1,520	office supplies	1	\$52.00	\$52		\$52	\$474	\$1,572						
	GIS Programmer	hour	120	60	120	gdev	\$34.72		\$4,166		\$15,000							\$4,166	\$15,000						
GIS Analyst	hour	122	60	122	sqtech	\$19.17		\$2,338		\$4,418							\$2,338	\$4,418							
#N/A		Clerical	hour	60	60	N/A	N/A																		
		Tech Support	hour	60	60	N/A	N/A																		
		Administration	hour	60	60	N/A	N/A																		
<table border="1"> <tr> <td>749</td> <td>72,282</td> <td>260,216</td> <td>\$,087</td> <td>\$,704</td> <td>\$,260</td> <td>\$265,000</td> </tr> </table>																			749	72,282	260,216	\$,087	\$,704	\$,260	\$265,000
749	72,282	260,216	\$,087	\$,704	\$,260	\$265,000																			

6005 Performance Bond	Total Project Value		\$265,000	Project Duration (months)		12
	Premiums /\$1,000			Premium Breakdown		
	\$1 to \$100,000	\$14.70	\$1,470	First year premium	\$3,087	
	\$100,001 to \$500,000	\$3.80	\$1,817	Additional premium	\$0.00	
\$500,001 to \$2,500,000	\$6.30	\$0	Total Premium	\$3,087		
					Total Bond Premium	\$3,087

1. **Data Collection:** In the section on data gathering, please provide additional information about the State's experience in gathering data from providers.

The State has worked on a broadband mapping effort in the past and while working with a contractor it gathered information/data from the State's service providers. The level of detail and the completeness of that initiative were different from this effort with the NTIA but contact was made with each of the providers. This has established a line of communication between the State and the providers that will greatly aid this current broadband mapping effort.

Also the State developed a working relationship with the state's largest phone and ISP provider during the development of the Statewide Addressing and Mapping Board project which, among other things, gathered address level information for every structure in the state to aid 911 services.

2. **Data Collection, Address-Level or Census Block:** Please clarify whether you are planning to request data at the address or census block/street segment level. If you are requesting data at the address level, please explain your anticipated action(s) if providers are unwilling to provide data at the address level?

The State will request both address and Census block level information from the service providers. If enough address level information is collected, the analysis will be performed at that level. If minimal address level information is collected then the State will perform its analysis at the Census block level.

3. **Verification:** Please describe the criteria (or reference(s)) in section that discusses "industry-engineering criteria".

Based on equipment location and technology the ability of equipment to cover a certain geographic area will differ between wireless, cable and DSL services. For example, wireless technology Last Mile offerings such as WiMAX typically provide coverage or a service area of approximately 4 to 6 miles surrounding a site. DSL technology is typically reliable for up to 18,000 feet (3 miles) from the serving Central Office. Similar industry accepted average service areas can be applied to the other types of technology available for Broadband distribution.

**Verification:** Please describe what you will do if providers are unwilling or unable to provide a list of customer phone numbers. Does past experience indicate that providers will make this type of data available to you?

The State, having contacted the service providers previously to obtain customer-based information should not be problematic. However if it is problematic, using existing GIS databases including SAMB resident information, 9-1-1 data and tax parcel information a sample list of phone numbers of customers can be developed so that random survey calls can be conducted. Just as a note, the SAMB Structure dataset contains, among other things, resident name, address, and phone number.

It is expected that a 100 percent customer phone number match rate is unlikely to be achieved with this method, due in part to use of cell phones, but enough customers will be contacted and surveyed to achieve a positive result.

4. **Verification:** Please describe what you will do if providers are unwilling or unable to supply 'line' qualification testing. Does past experience indicate that providers will make this type of data available to you?

The State does not anticipate that receiving line qualification testing data will be an issue; the largest ISP's provided this data to the State in support of the WV's BTOP application. In the event that a provider cannot or is unable to provide this information assumptions can be made based on generalized service models and on the ground tests. However, this is not an ideal situation, it would still provide a better than average result.

5. **Verification:** Please describe how the contractor will create an "appropriately granular sampling method to determine where coverage exists."

The determination of the *appropriately granular sampling method* is built around contacting all of the service providers in the State. Rough information is collected from them on their estimated geographic coverage areas via a survey. This first approach allows the contractor the ability to determine the approximate areas of coverage and determine the follow-up approaches on obtaining more detailed lower-level information for the development of accurate coverage areas.

6. **Verification:** As described in the Frequently Asked Questions found [here](#), since you or Kimball will be conducting verification, what measures will you take to meet the requirement that, "the process is executed in a manner that minimizes the likelihood of a conflict of interest."

The State's contractor to perform this work is structured in such a way that the staff performing the data collection of the project will not perform any analysis of the collected broadband data. Specific staff will be dedicated to the data collection activities of the project and different staff will be responsible for the data analysis. This process will be documented showing how the contractor minimized any possible conflicts of interest.

7. **Verification:** Are there other resources under consideration that you may use or integrate into the data being collected through Service Providers?

By working with an experienced contractor and using the data collection methods of provider surveys, on-site data collection, and Web portal data collection that the State will have dedicated for this project a sufficient amount of resources to gather existing data.

8. **Confidentiality:** Please clarify that the terms of the NDA, as described on pg 6 of the application, will conform with the confidentiality requirements of the program.

The NDA language that will be used for this project will be developed to meet or exceed the confidentiality requirements that the NTIA has requested. The State's primary focus during the data collection phase of the project is to assure that confidentiality of sensitive information is mandatory. Key datasets involving customer databases, provider business data and locations of key infrastructure with concern to public safety will be kept confidential and access limited. The State and its contractor will assume the responsibility of securing and maintaining data deemed sensitive in a confidential way using system processes involving staff access and secured hardware.

9. **Security:** Please provide additional detail to describe how you will protect confidential information. Additionally, you may also provide examples of past projects that have required you to secure confidential information.

As part of the project the State's contractor will produce a document that details the data security system that will be implemented. Data that is gathered will be handled by limited assigned staff. That staff will then organize the data and store it on the contractor's secured data center. Data will then be accessible by the project team via a secured, access code protected, Web portal. This will allow access to data be limited to the staff that have been cleared and assigned to those duties.

10. **Data Delivery:** Please clarify what you believe you will provide to NTIA on November 1, understanding it is only NTIA's preference for data on November 1, but data submittal is not a requirement.

The State will provide the NTIA a substantially complete set of available data by November 1, 2009. This will include rough draft versions of all relevant broadband data/information collected that will be used/analyzed throughout the project.

11. **Data Delivery:** Please provide more information about the timeline given an anticipated start date after Oct 1.

Since we are currently beyond October 1, 2009 the State will need to push back the November 1, 2009 delivery date to November 7, 2009 if the funding award is made to the State by October 9, 2009. If the award date occurs after October 9, 2009, but before October 16, 2009, the State would extend its original November 1, 2009 date to November 14, 2009. If either of these two timeframes is met then the additional due dates of February 1, 2010 and March 1, 2010 will also be met. If award is made to the State beyond October 16, 2010 please contact the State's point of contact, Mr. Tony Simental, for an updated project schedule.

12. **Data Delivery:** Please clarify if you will work with providers who are willing, but unable to provide data delivery within your timeline.

It is anticipated that all of the providers the State will be working with are willing participants. The State has worked with the providers in the past so the lines of communication have already been established and their willingness to work with the State on this project has been achieved. By offering numerous ways to provide their broadband data to the State, including a Web based portal to accept data, that data collection efforts should not be a timing issue. In the event that a provider is willing but unable to provide data delivery on time, it is likely that this/those providers will be "small," in consequence their data will not affect the substantially complete requirement and we are confident that it will be added to the by the complete dateline.

13. **Data Updating:** Please explain how data verification will be achieved during the process for repeated data updating.

The contractor used during the first six-months of the project when the data build occurs will be retained by the State through the first two to five years of maintaining the data. The same processes used during the beginning of the project will be used throughout the maintenance/data updating phase of the project. Separate staffing will be used for data collection and data analysis efforts. The contractor will prepare the data updates for uploading, the State staff will then join the data updates with the existing statewide broadband mapping dataset to ensure timely updates.

14. **Data Display:** Will Kimball provide all data and maps to the State of West Virginia?

Yes, all project deliverables including maps, data and documentation will be provided to the State in both digital and hard copies.

15. **Data Display:** Please describe whether this project will build upon or use the previous broadband maps created for the State of West Virginia?

As much of the existing information that was used in the State's previous mapping effort involving broadband data will be utilized. Digital data was not made available by the contractor in the previous effort, but maps in PDF format that were created will be used as source information. The information will be updated and additional previously uncollected information will also be collected and analyzed at a greater level of detail through the West Virginia Broadband mapping Program.

16. **Data Display:** Please provide additional detail about how the data in the map will be displayed to users.

All of the data that will be collected and viewed spatially will be accessible through an interactive Web mapping portal. Various spatial features like points, lines and polygons will represent elements of broadband throughout the State including service areas, speeds, etc. The Web mapping portal will be available through the Internet and the data that different users will be able to see will be preset and will abide by confidentiality agreements. Base layer information like county/municipal boundaries, imagery, structures, rivers and roadway information will also be displayed. In situations where possible sensitive information is displayed only limited access will be granted and will be guarded with a private pass code provided to those authorized to access that component.

17. **Data Display:** Please provide additional detail about how the data in the map will be displayed to users.

All of the data that will be collected and viewed spatially will be accessible through an interactive Web mapping portal. Various spatial features like points, lines and polygons will represent elements of broadband throughout the State including service areas, speeds, etc. The Web mapping portal site will be available through the Internet and the data that different users will be able to see will be preset. Base layer information like county/municipal boundaries and roadway information will also be displayed. In situations where possible sensitive information is displayed only limited access will be granted and will be guarded with a private pass code.

18. **BB Planning:** Please provide additional information about the State's broadband planning activities in the following areas:

- The BDIA-related purpose as listed in footnote 6 of the NOFA
- The problem(s) to be addressed
- The proposed solution
- The anticipated outcomes of the project
- The cost of such proposal in light of the previous factors

The State is requesting broadband mapping funds to accomplish several of the BDIA's eligible uses including:



- The creation of a baseline assessment of broadband deployment throughout the State
- The identification of areas of low deployment, adoption levels and supplier services
- The identification of barriers that exist in expanding adoption of broadband services
- The identification of the speeds of broadband services
- The creation of a state-level broadband technology team
- The collaboration of service providers, state and local government and private industry to aid the State in providing improved access to broadband technology
- The development of a focused plan to increase the growth of broadband technology including computer ownership and internet usage in areas determined to have low adoption
- The creation of a geographic map displaying statewide broadband service

The creation of a statewide broadband service map will visually display the problem areas of unserved and underserved areas. Some of the known problems that will be addressed through the project is to determine the size of the problem of areas not having available broadband service, what investments will need to be made to improve broadband service, the development of private/public partnerships that are needed to achieve the State's broadband service goals, etc. It is expected that additional problems will be uncovered during the project and plans on how to deal with those newly discovered issues will be developed.

The State's chosen contractor to assist the State on the project will be experienced to offer resolution to the States broadband issues. Proposed solutions to the above-mentioned problems will be developed and documented during the project. The State will play a major role in determining on where future technology investments will be made and if any regulations on service providers from a State level are necessary. In addition, education of both residential and businesses is expected in the unserved and underserved areas.

The State feels that the outcome of the project will be beneficial for the State to aid in growth. By identifying broadband service problems/issues within the state funding could be directed more wisely to areas that are in the greatest of need. The expected improvement in communication between the private and public sectors pertaining to broadband technology is also an outcome expected to aid the State.

The cost to conduct this project is a minor investment that will yield huge benefits for the State. By improving our current broadband service, more businesses will be attracted to the State adding an economic benefit that will far exceed the dollar value of the broadband mapping effort.

19. **Budget, In-kind contributions:** Please describe exactly what the SAMB database contains. Additionally, please describe whether any federal funding was originally used to create the database. Finally, please describe whether the SAMB database has been used as an in-kind match for any prior project.

In 1999 a committee was appointed by WV Representative Nick Rahall and Governor Cecil H. Underwood to look at how to develop a statewide mapping and addressing project in West

Virginia. Verizon (due to a lawsuit) agreed to include funding for the statewide mapping and addressing project in its Incentive Regulation Plan (IRP) with the WV Public Service Commission. The WV E-911 council then introduced legislation with the assistance of Verizon to create the Statewide Addressing and Mapping Board (SAMB).

SAMB generated geospatial data in two distinct stages. During the first stage aerial photography of the entire State was obtained. This imagery was used to produce a 3 meter digital elevation model, a 10 ft contour data model, color digital orthophotography, and various planimetric mapping features. This stage was finished in 2003.

The second stage was the **addressing** component. This effort resulted in many enhancements to the original planimetric data including: additions of features based on terrestrial GPS surveys, database attribution of road centerlines which produced the **SAMB Centerlines** dataset with address ranges and road names among other standard features identified in the NENA standards for road centerlines and the **SAMB Structures** dataset which includes geospatial information of building features and every structure in the state with additional resident information. The information included on this dataset are resident name, address, phone number, emergency service zone (ESZ) delineation and other features necessary to produce comprehensive E911 spatial datasets for all 55 counties in the state. In 2004 the WVSAMB hired an addressing contractor to assign new standardized city-style addresses to each addressable structure in the State and no federal funds were utilized in these efforts. The **SAMB Structures** dataset has been used in collaborative projects but has never been used as in-kind contribution by the State.

20.

- **Personnel:** For each position allocated to the project, provide a description of the position responsibilities, annual salary, and percentage of time dedicated to this project for Year 1 and Year 2. Please ensure that costs are clear for both Years 1 and 2, as opposed to both years cumulatively.

<b>Computation of Personal Services, Employee Benefits first year</b>				
<b>Based on PSES-10 and WVDHSEM Estimate</b>				
	<b>Salaries</b>	<b>Benefits</b>	<b>10% FTE Salary</b>	<b>10% FTE Benefits</b>
GIS Coordinator	\$65,180.00	\$22,011.29	\$6,518.00	\$2,201.13
Office Assistant	\$36,972.00	\$12,485.44	\$3,697.20	\$1,248.54
GIS Manager I	\$48,668.00	\$11,292.06	\$4,866.80	\$1,129.21
GIS Prog Analyst II	\$41,316.00	\$8,998.07	\$4,131.60	\$899.81
GIS Tech	\$30,505.00	\$7,069.13	\$3,050.50	\$706.91
		Total	\$22,264.10	\$6,185.60

<b>Computation of Personal Services, Employee Benefits second year</b>				
<b>Based on PSES-10 and WVDHSEM Estimate</b>				
	<b>Salaries</b>	<b>Benefits</b>	<b>10% FTE Salary</b>	<b>10% FTE Benefits</b>
GIS Coordinator	\$65,180.00	\$22,011.29	\$6,518.00	\$2,201.13
Office Assistant	\$36,972.00	\$12,485.44	\$3,697.20	\$1,248.54
GIS Manager I	\$48,668.00	\$11,292.06	\$4,866.80	\$1,129.21
GIS Prog Analyst II	\$41,316.00	\$8,998.07	\$4,131.60	\$899.81
GIS Tech	\$30,505.00	\$7,069.13	\$3,050.50	\$706.91
		Total	\$22,264.10	\$6,185.60

**GIS State Coordinator:** The coordinator will be responsible for overall project management and administration, including aiding the contractor in gathering, analyzing and verifying the data required for the successful completion of the project. The coordinator will be responsible for the communications with NTIA in matters, including written and oral progress reports and updates, regarding this project and will ensure adherence to all standards listed on the NOFA. The coordinator will also coordinate among the various Federal, State, and Local agencies, and with the providers to promote, maximize, and ensure their participation, and will administer licensing agreements, memorandum of understanding between agencies, marketing agreements, and data use agreements. The coordinator will develop and implement a strategic long-term plan for data maintenance and will pursue alternate funding sources for data stewardship and maintenance after the grant funds are depleted. The coordinator will devote approximately 10 percent of his time (.10 FTE) every year of the project.

**GIS Manager:** The manager will ensure the quality of GIS data, to include currency, geographic and content accuracy, completeness, and registration amount of the various map layers. The manager will direct, the activities associated with the administration and maintenance of the Broadband Mapping data including, but not limited to, updates made by providers and local agencies and will provide written and oral progress reports and updates to the GIS State Coordinator. It is estimated that the GIS Manager will spend about 10 percent of his time (.10 FTE) on this project.

**GIS Programmer Analyst:** Together with the GIS Manager, the GIS Programmer Analyst will review the data delivered by the contractor to ensure its accuracy and will create, update and maintain geographic databases related to this project. This person ensure quality of the data collected and will create, and maintain information for display on the Broadband GIS Web portal and will provide data for inclusion in reports for NTIA and other stakeholders. It will also analyze information and evaluate its accuracy before it's posted to the Web portal or delivered to NTIA. It is estimated that the GIS Programmer Analyst will spend about 10 percent (.10 FTE) of the time during every year of the project.

**GIS Technician:** The GIS Technician will create and maintain relevant map layers using automated GIS tools. Under supervision, the technician will create and maintain different GIS layers to meet project needs. The GIS Technician will spend about 10 percent of his time (.10 FTE) during every year of the project..

**Office Assistant:** The assistant will be responsible for assisting the coordinator in the gathering of information and maintaining communication with project stakeholders, and assistant will perform administrative and general office duties required by this project. The assistant will devote to this project about 10 percent of its work time (.10 FTE) during every year of the project.

- **Travel:** Provide additional information such that the basis for all figures is clear. Specifically, please provide additional information about vehicle uses.

A total of \$9,768 was requested for the GIS Coordinator and/or his assistant and/or GIS manager to attend meetings with multiple stakeholders and technical workshops related to the project. It is estimated that during the first two years travel will be more frequent than the following three years. Travel includes costs for airfare, hotel/meals, registration, and incidentals for average overnight trips. Current GSA CONUS rates: \$70 per day lodging, \$39 per day meals: Total lodging years one and two = \$70 x 24 overnights = \$1,680, plus meals = \$39 x 48 field days = \$1,872 per year.

A total of \$2,640 per year was requested for the GIS Coordinator vehicle use while performing duties related to this project such as attend meetings with multiple stakeholders (Small ISP providers in rural areas, County officials, and technical meetings through out the state RTI, WV GIS Technical Center. This includes gas and regular maintenance. Current GSA POV rate: \$.55/mile: 48 travel days x 100 average miles/trip = \$2,640 on years one and two.

- **Equipment:** For hardware costs, provide a detailed description of all equipment to be purchased, when it will be purchased in the first two years, and the basis for the figures used.

Map server with an Intel Xeon 3400 series quad core processors, 8 mb cache, 32 GB R-DIMM of RAM, 2 160 GB hard drives running Windows Server™ to host ArcGIS Server and to support the bulk geocoding service derived from the SAMB *Structures* and *Centerlines* and provider data to be used during the broadband mapping process and will host multiple datasets used during the creative phase of the project and later for user queries. This Server will be purchased before the March 1, 2010 dateline.

Two workstations with Intel Core™ 2 Quad Processors, Intel® Q45 Express Chipset, 8 mb cache, 12 GB of Random Access Memory (RAM), 320 GB hard drive running Windows Vista, this workstations will be will be also purchased before the March 1, 2010 dateline.

One 42" large-format printer, ink-jet, color, 4-ink, cyan, magenta, yellow, black; IEEE1394 FireWire, Ethernet 10Base-T/100Base-TX/1000Base-T, 1120 MB RAM, 160 GB, with integrated print server. This machine will be purchased during the first two months of the project.

One 54-inch large format scanner, 48-bit color and 16-bit grayscale image data, 4-channel capture technology, USB 2.0 interface with xDTR (Extended Data Transfer Rate 9600 dpi, Speed at 400 dpi turbo RGB 1.0 "/sec. This machine needs to be purchased in the first few days of the project.

Figures used on the proposal were approximate because the State is negotiating a new hardware contract and we don't know if the equipment will be bought under the existing contract or under the new contract. There are several vendors bidding for the contract so the price of this equipment is unknown at this time. Research was made and a "ball park" figure was reached based on data obtained from several vendors including current contract vendor and those bidding for the new contract.

- **Materials/Supplies:** For software costs, provide a detailed description of all equipment to be purchased, when they will be purchased in the first two years, and the basis for the figures used.

One ArcGIS Server license (14,000) and two ArcGIS licenses (3000). Due to the constant upgrades and releases ESRI makes on its software, these licenses will need to be updated every year hence the \$5,000 on year two. The price was taken from the contract the State has with ESRI and where rounded to the nearest hundred.

- **Subcontracts:**
  - Please clarify the current budget information, such that it is provided in the same format as that for the State's budget.

#### Year One

#### **Personnel:**

The following chart depicts the contractor's staff, position, hourly rate, percentage of time expected to be dedicated to the project and their responsibilities.

Staff Name	Position	Hourly Rate	Project Time	Responsibilities
John Dubnansky	Project Manager	\$125	50%	Coordinates all project activities for Kimball's staff on the project
Mark Holmes	Program Manager	\$150	15%	Advises project staff on correct broadband mapping procedures
Scott Strom	Project Finance Director	\$150	10%	Reviews and manages project budget
Tim Enderlein	Technical Leader	\$150	35%	Leads project technical resources, data analysis, and broadband assessment modeling
Dave Hoover	GIS Programmer	\$150	25%	Performs GIS programming duties and data analysis
Yoonsik Chung	GIS Programmer	\$135	25%	Performs GIS programming duties, web development, and data analysis
Dan Simpson	GIS Programmer	\$135	35%	Performs GIS programming duties, data analysis, and database conversions
Carol Malone	GIS Technician	\$100	75%	Performs base GIS data corrections
Denise Oshall	GIS Technician	\$100	25%	Conduct GIS data analysis tasks
Karen Vorhees	Data Collector	\$100	50%	Performs data gathering and preparation activities
Pat Payne	Data Collector	\$100	50%	Performs data gathering and preparation activities
Paul Sottile	Data Collector	\$100	25%	Performs data gathering and preparation activities

\*Salary figures have a built-in multiplier that reflects overhead costs, profit, etc.

**Travel:**

Kimball staff will utilize their own fleet of vehicles for project travel. It is expected that approximately 20 round trips from Kimball's offices to various locations throughout West Virginia will be necessary. The average distance of each trip is expected to be approximately 400 miles.

**Equipment:**

Kimball will not need to purchase equipment to carry out our project tasks.

**Materials/Supplies**

Kimball will not need to purchase software for use in the project. Kimball will purchase an average amount of project supplies for use in the project including printing supplies, binders, etc.

Year Two

The following chart depicts the contractor's staff, position, salary, percentage of time expected to be dedicated to the project and their responsibilities during the second year of the project.

Staff Name	Position	Hourly Rate	Project Time	Responsibilities
John Dubnansky	Project Manager	\$125	20%	Coordinates all project activities for Kimball's staff on the project
Mark Holmes	Program Manager	\$150	5%	Advises project staff on correct broadband mapping procedures
Scott Strom	Project Finance Director	\$150	5%	Reviews and manages project budget
Tim Enderlein	Technical Leader	\$150	10%	Leads project technical resources, data analysis, and broadband assessment modeling
Dave Hoover	GIS Programmer	\$150	5%	Performs GIS programming duties and data analysis
Yqonsik Chung	GIS Programmer	\$135	5%	Performs GIS programming duties, web development, and data analysis
Dan Simpson	GIS Programmer	\$135	20%	Performs GIS programming duties, data analysis, and database conversions
Carol Malone	GIS Technician	\$100	5%	Performs base GIS data corrections
Denise Oshall	GIS Technician	\$100	10%	Conduct GIS data analysis tasks
Karen Vorhees	Data Collector	\$100	10%	Performs data gathering and preparation activities
Pat Payne	Data Collector	\$100	10%	Performs data gathering and preparation activities
Paul Sottile	Data Collector	\$100	5%	Performs data gathering and preparation activities

\*Salary figures have a built-in multiplier that reflects overhead costs, profit, etc.

**Travel:**

Kimball staff will utilize their own fleet of vehicles for project travel. It is expected that approximately 6 round trips from Kimball's offices to various locations throughout West Virginia will be necessary. The average distance of each trip is expected to be approximately 400 miles.

**Equipment:**

Kimball will not need to purchase equipment to carry out our project tasks.

**Materials/Supplies**

Kimball will not need to purchase software for use in the project. Kimball will purchase an average amount of project supplies for use in the project including printing supplies, binders, etc.

- Who will own the interactive mapping application created by Kimball?

The State will own the interactive web mapping application developed by Kimball. The application will be maintained by the WV Division of Homeland Security and Emergency Management in conjunction with the Office of the GIS Coordinator.

- Please explain why verification tasks (such as sampling) that are described in the verification section are described with budget detail in the budget narrative?

The Verification tasks are broken out in detail in the budget narrative because it is a substantial task on the project.

## 21. Budget Narrative:

- **General Budget:** Please provide additional information clarifying the tasks that Kimball will perform versus the state.

Kimball, the State's contractor, will perform the following tasks for the West Virginia Broadband Mapping Program:

- **NDA Execution**—Kimball will execute NDAs to all entities being contacted for the project.
- **Survey Distribution**—Kimball will survey broadband service providers.
- **Data Collection**—Kimball will gather all current broadband and supplemental data, including all Census, education, economic development, government, health care and other source data available. The data will be obtained from providers via a Web-based interactive mapping application created by Kimball.
- **Data formatting**—Once broadband and supplemental data are gathered, Kimball staff reformats data to be compatible with ESRI ArcGIS formats; data can then be viewed using a map document in ArcGIS and manipulated to improve overall accuracy of the data.
- **Data Verification Plan Development**—Kimball will develop a plan to implement the data verification processes for data that may be less than adequate for use in the project. The plan will be developed by and for Kimball staff to execute the verification.
- **Data Verification / Correction**—Kimball will verify data using the processes developed in the data verification plan. Once data is verified, Kimball will correct data that has been verified. Verification may involve the use of a global positioning system (GPS) and/or contacting broadband service providers or other data providers.
- **Data Analysis/Creation**—Kimball will perform data analysis to map broadband service and information associated with the broadband service, including technologies, spectrums, service speed, customer cost and availability of service for schools/universities, libraries, hospitals and public buildings. Analysis will be done at the address level, meaning that addresses will be searchable in the final deliverables of the project. The data analysis portion of the project is key

in creating the final deliverables, such as service and demand maps. Kimball will share all created in the data analysis phase with the NTIA as part of the National Broadband Map initiative.

- **Broadband Assessment Modeling Development**—Kimball will create a broadband assessment model used in ArcGIS to be used for broadband data analysis and assist the State in decision making regarding broadband planning and development.
- **Data Maintenance Plan Development**—Kimball will develop a maintenance plan for the State to use as data maintenance is needed. The plan will detail various procedures for collecting and updating data, as well as adding data to the statewide broadband mapping database.
- **Data Maintenance**—When the State or Kimball obtains new broadband data, Kimball will reformat the data and provide the data to the state to be uploaded into the broadband mapping database. Kimball will also oversee maintenance performed by the state from years two through five of the project and will perform new provider surveys every six months to assure broadband data is up-to-date.

The State will be responsible for the following for the West Virginia Broadband Mapping Program:

- **Equipment Replacement/Obtainment**—As time goes by and technologies advance, the State will need to replace equipment used for the project. The state will also need to purchase hardware and software for the project including a plotter, scanner, server, workstations (two) and ArcGIS software.
- **Meeting/Workshop Attendance**—The State GIS team will be required to attend various stakeholder meetings and technical workshops for and about the project.
- **Supply purchasing**—The State will need to purchase various office supplies (i.e. ink, pens, paper, etc.) throughout the duration of the project.
- **Data Maintenance**—Once Kimball develops a maintenance plan, the State will obtain formatted data from Kimball and upload it into the statewide broadband mapping database.
- **Other Tasks**—The state will be responsible for overall project management and administration, communication with the NTIA, written and oral reports, coordination among government entities, licensing agreements, marketing plans and contractor assistance in data gathering, analysis and verification. For more information regarding specific tasks to state personnel, please see section...2. Personnel
- **Data Analysis:** Please explain whether broadband assessment modeling, as described on page 8 of the budget narrative, is considered to be a broadband planning activity, and if not, why not.

The development of a broadband assessment model is both a data analysis and a planning tool. The assessment is being created to add to the quality and depth of the data analysis as it will examine Census information along with broadband. At the same time it can be used as a tool that will allow information to be uploaded and act as a decision making tool. So the short answer to the question is that it is both a data analysis tool and a decision making tool that could be used for planning purposes. Based on its design, it will be used more on the data analysis side of the project.

- **Contractor**



- **Budget, Data Maintenance:** Please explain why data maintenance costs exist in Year One of the project when data is being initially collected?

The primary cost for data maintenance in year one is the actual development of the interactive Web mapping portal for the project. State personnel will review, maintain and perform quality control on all existing state layers used for this project. The project contractor will develop the Web based tool to allow for the acceptance of data from the providers and other information providers and will train State personnel on its use. The cost for the development of the tool is \$65,000. The other \$10,000 will cover the average data maintenance work since maintenance updates will actually occur at the six-month and one year periods in the first year of the project.

**SECTION B - BUDGET CATEGORIES**

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1) SBBB Program	(2)	(3)	(4)	
a. Personnel	\$ 96,721.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 96,721.00
b. Fringe Benefits	28,687.00	0.00	0.00	0.00	28,687.00
c. Travel	12,384.00	0.00	0.00	0.00	12,384.00
d. Equipment	40,000.00	0.00	0.00	0.00	40,000.00
e. Supplies	28,000.00	0.00	0.00	0.00	28,000.00
f. Contractual	1,190,000.00	0.00	0.00	0.00	1,190,000.00
g. Construction	0.00	0.00	0.00	0.00	
h. Other	351,169.00	0.00	0.00	0.00	351,169.00
<b>I. Total Direct Charges (sum of 6a-6h)</b>	<b>1,746,961.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>\$ 1,746,961.00</b>
j. Indirect Charges	8,882.00	0.00	0.00	0.00	\$ 8,882.00
<b>k. TOTALS (sum of 6i and 6j)</b>	<b>\$ 1,755,843.00</b>	<b>\$ 0.00</b>	<b>\$ 0.00</b>	<b>\$ 0.00</b>	<b>\$ 1,755,843.00</b>
7. Program Income	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	

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WV

SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. In-kind Contribution SMS Structures Dataset Data Verification Analysis Maintenance and Collection see Budget Narrative	\$ 351,169.00	\$ 0.00	\$ 0.00	\$ 351,169.00	
9.					
10.					
11.					
<b>12. TOTAL (sum of lines 8-11)</b>	<b>\$ 351,169.00</b>	<b>\$</b>	<b>\$</b>	<b>\$ 351,169.00</b>	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$	\$	\$	\$	\$
14. Non-Federal	\$	\$	\$	\$	\$ 0.00
<b>15. TOTAL (sum of lines 13 and 14)</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$ 0.00</b>
SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program	FUTURE FUNDING PERIODS (YEARS)				
	(b) First	(c) Second	(d) Third	(e) Fourth	
16. Data Collection (Years 3, 4, 5 Funding Estimate)	\$	\$	\$	\$	
17. Data Verification (Years 3, 4, 5 Funding Estimate)	\$	\$	\$	\$	
18. Data Analysis (Years 3, 4, 5 Funding Estimate)	\$	\$	\$	\$	
19. Data Maintenance (Years 3, 4, 5 Funding Estimate)	\$	\$	\$	\$	
<b>20. TOTAL (sum of lines 16 - 19)</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges:		22. Indirect Charges:			
23. Remarks:					