	Mapping Yr 1		Mapping Yr 2		Mapping Yrs 1-2		Mapping Tot	Planning YRS 1-3		Planning Total		Map and Plan	Map and Plan
	In Kind	Federal	In Kind	Federal	In-kind	Federal	In Kind and F	In Kind	Federal	In Kind and Fed		In Kind	Fed
Personnel Salaries	$156,650	$319,410	$42,390	$79,380	$199,040	$398,790	$597,830		$306,992	$306,992		$199,040	$705,782
GITA	*$88,970*		$26,640				*$115,610*					$0	$0
ASLD	*$67,680*		$15,750				*$83,430*					$0	$0
Personnel Fringe Benefits							$0				$0	$0	$0
Travel							$0				$0	$0	$0
Equipment	$78,000	$121,000		$1,512	$78,000	$122,512	$200,512				$200,512	$78,000	$122,512
Materials/Supplies							$0				$0	$0	$0
Subcontracts		$940,000		$332,300	$0	$1,272,300	$1,272,300		$150,000	$150,000	$1,422,300	$0	$1,422,300
Construction							$0				$0	$0	$0
Other (eg Data)	$190,000				$190,000		$97,000	$32,000		$32,000	$222,000	$222,000	$0
Total Direct Costs	$424,650	$1,380,410	$42,390	$413,192	$467,040	$1,793,602	$2,167,642	$32,000	$456,992	$488,992	$2,293,573	$499,040	$2,250,594
Total Indirect Costs	$65,388	$0	$9,148		$74,536		$74,536		$42,979	$42,979	$117,515	$74,536	$42,979
Total Costs											$2,867,149		
											$0		
Federal							$1,793,602			$499,971	$2,293,573		$2,293,573
In Kind							$541,576			$32,000	$573,576		
% Fed											80%		
% In-Kind											20%		

"other" in b13 is the line item for data in the Applicant's budget

For cell H5, Applicant's budget combined indirect and personnel. This line reflects the indirect cost of 42979 subtracted from the total provided for personnel and indirect (349,971).

ARIZONA BROADBAND MAPPING - PROJECT PHASES, COMPONENTS AND TASKS

Data Gatherhing and Processing Phases, Components and Tasks	Responsibility main or (main/supporting)	Hours - Broadband contractor	Hours - GIS contractor	Hours - ASLD	Hours GITA
PHASE 1 - Development of initial Broadband data base and Broadband Map					
1. Resource requirements definition and aqusition Component					
- 1.1 hire broadband services contractor	GITA/ASLD				
- 1.2 hire GIS Services contractor	ASLD/GITA				
- 1.x Develop map layer requirements and data requirements for layers to produce Arizona Broadband map	GITA / ASLD / GIS Services Contractor				
Define any requirements for supporting data needed for processing broadband services and producing map layers	ASLD and GIS Services Contractor / GITA				
Define hardware, software and services required to process the broadband services data	ASLD / GIS Services Contractor / GITA				
Define hardware and software for producing the broadband map	ASLD / GIS Services Contractor / GITA				
2. Data Collection Component					
- 1.3 develop data project information sheet for working with broadband service providers	Broadband Services Contractor/GITA/ASLD				
- 1.x develop data request form for working with broadband service providers	Broadband Services Contractor and GIS Services Contractor / ASLD / GITA				
Develop Non-Disclosure agreement template for use in broadband data acquisition	Broadband Services Contractor / GITA				
- 2.1 Contact / meet with private broadband service providers to introduce project and request data	Broadband Services Contractor				
- 2.2 Obtain broadband service data for private service providers based on data specification requirements	Broadband Services Contractor				
- 2.3 Verify broadband data meets requirements	Broadband Services Contractor / GIS Contractor				
Meet with public and community anchor institutions to introduce project and request data	GITA				
- 2.4 Obtain broadband service data community anchor institutions based on data specification requirements	GITA / ASLD				
- Verify community anchor institution data based on data specification requirements	GIS Contractor				
3. Initial Data Processing Component					
- 3.1 Process private broadband service provider data and community anchor data in accordance with specifications for NTIA data delivery	GIS Contractor / broadband services contractor				
- 3.2 Process public broadband service data and community anchor data in accordance with NTIA data delivery specifications	GIS Contractor / ASLD				
4 Data Delivery Component					

- 4.1 Verify processed data meets NTIA requirements for NTIA data		
- Verify processed data meets map layer requirements		
5 Map Development Component		
- 5.1 Obtain hardware, software and other services necessary to host Arizona Broadband map	ASLD / GITA	
- Install hardware, software for Arizona Broadband map	ASLD	
- Develop Broadband Map custom functional requirements	ASLD / GITA	
- Develop Broadband map configuration files	ASLD	
- Develop Broadband map custom functional software	ASLD	
6 Data Verification Component		
6.1 Develop plan to verify broadband data base	Broadband Services Contractor / GITA	
7. Maintenance Plan (data update) and Progress tracking Component		
7.1 Develop plan to update the data, document and illustrate changes	Broadband Services Contractor, GIS Services Contractor, ASLD, GITA	
PHASE 2 – Data Verification and final data production		
2.1 Data Verification Component		
2.1.1 Implement Data verification plan		
2.1.2 Adjust data if necessary if required by verification plan results		
2.1.3 Provide NTIA adjusted data and verification explanation if necessary		
2.2 Data Delivery Component		
2.2.1. Verify processed data meets NTIA requirements for NTIA data		
2.2.2. Verify processed data meets map layer requirements		
2.3 Map Adjustment Component		
2.3.1 Adjust map layers based on verified data		
2.3.2 Insert adjusted map layers into broadband map		
PHASE 3 Maintenance of Broadband Database and Broadband Map – Years 2-5		

3.1

3.1. 1 Collect data
2.2 Process data to standards

	A	C	D	C:\Documents and Settings\jtc\Local Settings\Temp\wz10f2\Arizona Copy of Mapping Tasks w 424a Catagoriess_1Y-19-09_Final.xls					
1	**ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget (Years 1 & 2)**								
2	Data Gathering and Processing				In-Kind Contributions				
3	**Phases and Tasks**	Contractual	Equipment	Personnel	GITA Personnel @$90/hr	ASLD Personnel @$90/hr	Indirect Charges	Data	Equipment
4									
5		Year 1							
6	1 - PHASE 1 - Development of Initial Broadband Database								
7	1.1 - Resource Requirements Definition and Acquisition Component	$6,000	$0	$14,760		$11,520	$6,325	$0	$0
17									
18	1.2 - Data Collection Component	$175,000	$0	$19,980		$9,720	$6,363	$42,000	$0
19									
32	1.3 - Initial Data Processing for Broadband Service and Community Anchor Institution Data Development and Delivery Component	$135,000	$0	$63,450		$11,250	$10,710	$0	$0
33									
42	1.4 - Arizona Broadband Map Development Component	$61,500	$60,500	$81,360		$9,900	$14,591	$0	$39,000
55	PHASE 1 SUBTOTAL	$377,500	$60,500	$179,550	$58,410	$42,390	$37,989	$42,000	$39,000
56									
57	2 - PHASE 2 - Data Verification Delivery of Final Data Set and Production of the Arizona Broadband Map								
58	2.1 - Broadband Data Verification	$457,000	$0	$5,760		$6,390	$1,897	$55,000	$0
59									
68	2.2 - Final Data Production and Delivery to NTIA	$15,000	$0	$22,140		$900	$3,478	$0	$0
69									
74	2.3 - Arizona Broadband Map Development Component	$90,500	$60,500	$83,160		$9,000	$14,717	$0	$39,000
75									
89	2.4 - Arizona Broadband Map Adjustment Component	$0	$0	$28,800		$9,000	$7,308	$0	$0
94	PHASE 2 SUBTOTAL	$562,500	$60,500	$139,860	$30,560	$25,290	$27,399	$55,000	$39,000
95									
96	TOTAL PHASES 1 and 2	$940,000	$121,000	$319,410	$88,970	$67,680	$65,388	$97,000	$78,000
97									
98	Year 1 Total: Federal Request	$1,380,410							
99									

	A	C	D	C:\Documents and Settings\jtc\Local Settings\Temp\wz10f2\Arizona\Copy of Mapping Tasks w 424a Catagoriess_11-19-09_Final.xls				
1	**ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget (Years 1 & 2)**							
2	Data Gathering and Processing			In-Kind Contributions				
3	**Phases and Tasks**	**Contractual**	**Equipment**	**Personnel**	**GITA Personnel @$90/hr**	**ASLD Personnel @$90/hr**	**Indirect Charges**	**Data**	**Equipment**
101		**Year 2**							
102	**3 - PHASE 3 - Bi-Annual Maintenance of Broadband Database and Arizona Broadband Map**								
103	3.1 - Develop and Refine Plans for Data maintenance and Broadband Progress Tracking Component	$20,800	$1,512	$1,800		$900	$378	$0	$0
104									
109									
116	3. 3 - Update the Arizona Broadband Map	$80,000	$0	$12,330		$5,850	$6,275	$0	$0
117									
123	3.4 - Maintain the Hardware, Software, Communications and Data Infrastructure to Support Processing and Delivery of the Arizona Broadband Services and Community Anchor Databases and the Operations of the Arizona Broadband Map	$101,500	$0	$8,820		$9,000	$2,495	$0	$0
131	**PHASE 3 SUBTOTAL**	$332,300	$1,512	$79,380	$26,640	$15,750	$9,148	$0	$0
132									
133	**Year 2 Total: Federal Request**	**$413,192**							
134									
135	**Mapping Expenditure Totals by Category**	$1,272,300	$122,512	$398,790	$115,610	$83,430	$74,536	$97,000	$78,000
136	**Total Mapping Federal Request**			**$1,793,602**					
137	**Mapping In-Kind Contributions**								**$448,576**
138									
139	**Terms**								
140	GITA - Government Information Technology Agency								
141	ALSD - Arizona State Land Department								
142	BSC - Broadband Service Consultants								
143	GSC - GIS Service Consultants								
144	ESRI - GIS Software Contract								
145	DOA - Department of Administration								
146									
147									
148									

State of Arizona Responses to NTIA questions regarding Arizona's State Broadband Data and Development Grant Program submission

1. 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 from providers. If you are requesting data at the address level [requests answers to a & b choices].

Arizona's Broadband Mapping Initiative Project intends to request data at the address level.

a. Do you have reason to believe providers will deliver address-level data (and if so, please explain why)

Although we cannot say with absolute certainty that all providers will be willing or able to provide data at the address level, we have a number of reasons to believe that we will meet with success in this area. First we intend to work with providers on an individual basis and provide customized NDAs (non disclosure agreements) for those providers for which this is important. We will also develop flexible, tiered NDAs to obtain the necessary data to provide the required files to NTIA and provide the Arizona project with data needed to develop the Arizona Broadband Map. We believe that this process will greatly assist the project's ability to obtain the address level data from providers.

Our contract project members and staff from the Arizona Government Information Technology Agency (GITA) who will be working on the project have had deep and long experience in working with Arizona providers on a number of similar projects. Our broadband service contractors were instrumental in developing the Arizona Telecom Directory (ATD) database of the Arizona Telecommunications and Information Council (ATIC) http://www.arizonatele.com/atic . The ATD data base was developed to contain service provision information for 180 telecommunications providers throughout Arizona. Data for approximately 50 classes of telecommunications data, including internet provision, was collected at the zip code level. The relationships, working processes and knowledge which were developed with ATD will provide invaluable assistance working with Arizona's broadband providers and greatly assist in the data collection effort of the project. All of the state's major providers, and many of the small Internet Service Providers, participated in the development of the ATD data base. We believe the project team's experience and relationships, cultivated and developed as part of that effort, will be significant in collecting and processing the data required by NTIA and the mapping components of the Arizona Broadband Mapping Initiative.

We believe that other related efforts by project team members will also significantly contribute to our ability to obtain data at the address level for Arizona. The State's telecommunications manager, housed at GITA, is the project manager for the Arizona Broadband Mapping Initiative. Over many years his office has also cultivated valuable relationships along with strategic processes (E-Rate training, State Procurement contracts) with the provider community, impacting and enhancing broadband development in Arizona. His office also manages Arizona's review of the BTOP grants, and through that process, has provided mapping and other useful information to the provider community throughout Arizona. These efforts are seen as valuable and important to all Broadband interests in the State, worthy of maintaining the cooperative attitudes now existing.

b. What are your anticipated action(s) if providers are unwilling to provide data at the address level

The Arizona Broadband Mapping Initiative will employ a two tiered strategy to collect and verify data at the address level. This strategy will be employed for areas where providers are either unwilling or unable to provide data at the address level. If necessary, the project will utilize project data verification strategies to become primary data collection methods for dealing with gaps in information provision from providers. These will include using commercially available data bases for wired telecom centers, wireless provision and cable service boundaries. If wired providers cannot provide address locations, but can provide Digital Subscriber Line Access Multiplexer (DSLAM) locations, service provision models can provide data on potential address locations of broadband DSL services. The ATD data base will also be employed to provide information at more general geographic resolution to determine "expected" providers for specific locations. The state of Arizona's Broadband Assessment GIS Survey, http://www.azgita.gov/telecom/gisstudy.htm also provides sources for databases and information related to locations of broadband providers and services in Arizona.

Crowd sourcing can also be employed to deal with data gaps by utilizing internet accessible communications tools that would also provide information on address locations and important service parameters of a large numbers of internet end user access locations in Arizona. This will help better define where gaps may exist in coverage. That data could then be used to develop base information for data estimations and gaps in the provision and access to services.

The locations of data gaps could then be identified and used to provide marketing incentives for providers to collect further detail and develop the missing information. Models to develop best available estimates could also be utilized to fill gaps in the data so wall-to-wall information is available for Arizona. As these gaps are noted and estimated, the project will develop additional information and techniques to provide better data. Data source lineage on coverage areas can be tracked to serve as metadata to document the source of the information from which the broadband use and availability can be displayed, analyzed and improved over time.

The project will initially use commercial street centerlines to geocode address level provider data. Where these data are not sufficient in rural areas, we will associate data to the block level and work with state and county agencies through the state's E911 program to create an updated and accurate street centerline, address ranges and address points file to generate address level data. The address point files will provide a base of accurate addresses for the state to match against provider information. Provider data we cannot obtain, or geocode at the address level, will be initially represented at the block level and replaced by address level data as soon as possible.

2. Indian Tribes/Tribal Governments: Please provide more detail of your planned outreach process to Indian tribes to ensure that these groups are involved, and how you anticipate receiving/incorporating information about broadband availability on tribal lands. Note that this question pertains to the data collection effort required for the Mapping component of the grant (as opposed to the Planning component).

The State of Arizona has a number of methods to obtain broadband availability on tribal lands. The project team has many contacts with Tribal organizations and leaders who can provide assistance in this area. Many of the States current ISPs provide various services to the tribal areas and that information will be developed and obtained through the same channels as described above. Several of these providers are Tribal entities themselves and provide telecommunications services through the operations of their own ILECs. Outreach to the Indian Tribes in Arizona will also be

accomplished through a number of coordinating organizations and contacts with Arizona's Indian Tribes regarding telecommunications and broadband access. Organizations such as the Inter-Tribal Council of Arizona http://www.itcaonline.com/ , Navajo Telecommunications Regulatory Commission, http://www.nntrc.org (NNRTC) , Navajo Tribal Utility Authority, San Carlos Apache Telecommunications Utility http://www.scatui.com/ and other Tribal telecommunications organizations in Arizona provide important contact and coordination information for broadband status and information on the Tribal lands. The NNRTC has been interested in working with the State to further broadband adoption in the Navajo Nation and has adopted a cooperative resolution to work with GITA to further these interests. The Office of the Governor has a policy advisor for Tribal affairs who works with GITA on broadband adoption issues as part of the State's efforts to expand broadband availability on Tribal lands. GITA has had considerable interaction with Arizona's Indian Tribes as part of the State's work to expand broadband to unserved and underserved areas. The State project team also has had interaction with Tribal leaders through its past work with ATIC. A Navajo Tribal Chairman has been a keynote speaker at the ATIC Telecommunications Summit and FCC Tribal liaison Shana Bearhand has participated in ATIC summits and participated in coordination meetings with ATIC. Because of these organizations, contacts and long-term working relationships with Tribal entities in area of Broadband adoption, we believe that the State of Arizona will continue to have good coordination and cooperation with Arizona's Indian Tribes in the expansion of Broadband to unserved and underserved areas on Arizona's Tribal lands.

3. Statewide Broadband Map: What is your expected public launch date for the Arizona Broadband Map?

At the onset of the project we would plan to develop the production hardware and software facility for storing the data base utilized for both NTIA text file development and for map layer and map services development. Because we will be utilizing existing facilities, equipment and software as in-kind contributions for a development environment we will initiate development of the mapping components of the project immediately upon initiation of the project. Upon completion of the development of the application, production environment and data base we could launch the Arizona Broadband Map. We expect then to have the application developed simultaneously or shortly thereafter delivery of the data files to the NTIA. This would be in the March-May 2010 timeframe.

4. Budgeted Datasets: Please provide more detail and cost calculations for the datasets being counted as in-kind in phase 1.2.7 and 2.1.5 (as well as being funded by the program in 2.1.5)

In – Kind information

1.2.7 - Obtain GIS data from State Land Department and other public agencies = $370,000

The Arizona Broadband Map has not been designed nor have specific data sets been designed for development of map layers. However we would expect that the following layers from current State of Arizona sources would, at a minimum, be utilized for the map and would represent an in-kind contribution. We expect this to be an underestimation of the final data sets used and thus and underestimation of the in-kind data contributions.

Arizona NAIP imagery data and map service

Cost to Arizona for NAIP 2007 imagery (1 meter, orthoimagery) which will be used as a base to update street centerlines, address ranges and address points. Hosted imagery will be updated to

NAIP 2010 Imagery pending production of that data set. Arizona Imagery Server and Image Data Service values based on state expenditure to create and host the current imagery service –

Arizona State Partnership Cost:	$140,000	
Absolute Control Cost:	$ 36,000	
Hosting NAIP Imagery costs (5 year cost)	$115,800	
Imagery Total Cost -		$291,800

Arizona State Land Department Land ownership data base –

496 hours per year to maintain
496 hours per year x $28.78 = $14,275 per year x 5 years = $71,375

Arizona State Land Department city boundaries data base –

416 hours per year to maintain
416 x $28.78 = $11,972 per year x 5 years = $59,860

Arizona Department of Environmental Quality school sites –

These are minimum costs for maintenance of the data base based on general levels of efforts estimates obtained from ADEQ staff. Actual costs are higher but could not be obtained in the time frame needed for this report

160 hours per year to maintain
160 x 28.78 = 4605 per year x 5 years = $23,023

Arizona State Land Department hillshades

160 hours of development costs x $33.88 = $5,420

Arizona State Land Department hydrography data sets

200 hours of development costs x $28.78 = $5,756

Arizona State Land Department Towns and Localities

120 hours of development costs x $28.78 = $3,455

In kind data contribution from Arizona = **$460,689**

2.1.5 – Initiate completion of state address point file with the Arizona 911 for use with Broadband assessment and verification = $1,000,000

The Arizona State 9-1-1 Office received a $1 million grant from the State Public Safety Answering Point (PSAP) Readiness Fund in 2005 for developing GIS street centerline and associated data at the county level. This grant was intended to support deployment of wireless Phase II 9-1-1 throughout the state. Since the *Arizona Wireless 9-1-1 Implementation Plan* calls for highly

accurate GIS map data, the State 9-1-1 Office opted to use the funds to develop and enhance such data.

Grants were provided to counties and some municipalities throughout the state for the purpose of developing highly accurate, geocodable street centerline data, as well as map data for emergency service zones and community boundaries. Upon project completion, the local governments were eligible for wireless Phase II 9-1-1 deployment; where the caller's XY, callback number, and wireless tower antenna information is sent to the 9-1-1 call taker. The State 9-1-1 Office has installed mapping equipment at each 9-1-1 call taking position, which displays the location of all 9-1-1 callers when they answer the phone. Each community is responsible for maintaining their own 9-1-1 GIS data.

To date 10 of the 15 counties in Arizona (including the large metropolitan counties of Maricopa and Pima) have completed the 9-1-1 GIS street centerline files. In addition seven counties have active programs in the development of address point locations. These point locations will also provide a tremendous benefit to the Arizona Broadband Mapping Initiative. The 9-1-1 programs $1,000,000 is nearly exhausted and the 9-1-1 GIS program manager expects the funds to be completely exhausted on the GIS data development within the next two years. These data would be utilized as in-kind contributions to provide a superior geocoding base for the Arizona Broadband Map Initiative.

For funding by the program:

2.1.5 - Initiate completion of state address point file with the Arizona 911 for use with Broadband assessment and verification = $430,000

Since additional work would be needed to complete the E-9-1-1 data and point file the funding requested under this item would be utilized for work with Arizona counties through the E-911 program. Funds would be used to update existing data, utilize NAIP 2007 and, when obtained, NAIP 2009 imagery, as a photo base, to align street centerlines and identify structures for address points. The NAIP imagery matches the Census boundaries, so the new address level database will be very consistent with Census geography. This funding will be passed through to counties to help them complete address point files. Our agreement with them would require they maintain, update and provide their street networks and address point data to the State for use in the Broadband mapping program. This will lead to higher levels of address matching and increased quality of data on broadband use in Arizona. It will also provide significantly better information on the locations of potential broadband customers for census geographic units.

A Detailed Explanation regarding "Planning" portion of Mapping and Planning Initiative.

5. BB Planning: Arizona plans to use Planning funds to support 5 distinct task groups. For each task group, please list:

- **The specific BDIA-related purpose as listed in "footnote 6" of the NOFA**
- **The specific problem(s) to be addressed by that task group**
- **The anticipated solutions and outcomes for that task group**
- **Who specifically will be performing the work (How many staff performing what set of tasks, for how many hours, etc.)**

In GITA's August 14th Mapping and Planning Initiative application document, a table was used to illustrate the areas of budget expense for which the Total requested Planning grant funds ($499,921) would be used. This table is now revised per the instruction regarding separating the years, especially years 1 and 2. Our application's "Project Narrative" Document, (excerpted hereunder below the table) provided information about the organizational structure, and more specific task oriented information within the overall Planning structure. New questions from NTIA are answered and clarifications provided, hereunder.

UPDATED BUDGET TABLE

	A	B	C	D	E	F	G	H	I	J	K
2				Federal Request							In-Kind Contribution
3		Arizona Broadband Connect Initiative	Responsibility	Contractual/Outsourced @ $90 Per hour for Planning activities			AZ GITA Personnel Salaried or Partial FTE (including indirect charge amount) up to $90/hr.			Total Indirect Charges: 3 Yrs (14%)	Data
4		TASKS to be Directed by a State Broadband Entity		Year 1	Year 2	Year 3	Year 1	Year 2	Year 3		
5		A. State Strategic Broadband Plan Task Group - This Task group will take data from the mapping project and create a Statewide Strategic and Tactical Broadband plan, which emphasizes the expediant of infrastructure to deficit areas of the State.	GITA*	$15,000	$10,000	$5,000	$17,300	$17,300	$17,300	$6,373	$20,000
6		B. Right of Way & Broadband Policy Task Group - This Task group formulates and proposes policies that help to either eliminate barriers or improve the likelihood that Broadband Infrastructure may be more easily deployed	GITA	$40,000	$40,000	$40,000	$16,850	$16,850	$16,850	$6,208	
7		C. Rural and Tribal Broadband Task Group - This Task group helps define needs and promote solutions for Broadband in Rural areas, especially with Economic Development and Business Groups who have unique needs.	GITA				$41,980	$41,350	$41,350	$15,311	$10,000
8		D. Intergovernmental Broadband Task Group - This Task Group coordinates intergovernmental Broadband needs, including Counties, Cities and Towns, and School Districts as they work toward funding broadband in their jurisdictions.	GITA				$22,001	$22,001	$22,001	$8,106	$2,000
9		E. Support Personnel costs associated with outreach activities to various State and National professional Stakeholder Communities as required, to facilitate partnerships in projects	GITA				$19,280	$19,280	$18,280	$6,980	
10		Planning Expenditure Totals by Category		$55,000	$50,000	$45,000	$117,411	$116,780	$115,780	$42,979	$32,000
11		Total Planning Federal Request		Total of 3 years-->		$150,000	Total of 3 years-->		$349,971	$499,971	
12		Total Planning In-Kind Contributions									$32,000
13		Total Planning Project Cost									$531,971
14		Terms: *GITA - Government Information Technology Agency									
15											

The tasks identified in the Budget Table above work under the mandate and direction of the **State Broadband entity** (yet to be officially named), which will be a body appointed by the State, will operate under GITA's administrative authority and will be provisioned with staff support by GITA (and by other agencies), as "Tasks" require.

The following is excerpted from the "Narrative", page 35. (underlining added)

> "A state level broadband planning entity will facilitate solutions to such multi-jurisdictional problems, i.e. middle mile deficits in one area impacting local, last mile access, in other areas."
>
> "The state entity will also act as a center of influence for discussion of broadband policy issues. The most comprehensive broadband issue and barrier to build out of broadband capacity is right-of-way (ROW), and permitting policies at federal, state, tribal, county and local levels. A major component of any state level discussion of broadband solutions must include policy making and standardization of the permitting process."
>
> GITA envisions the following structural elements and processes managed by a state broadband entity. It will be composed of representative stakeholders from government, education, health and business institutions. Its membership will be reflective of the broadband challenges in the state which are abundantly centered in rural areas, but are also a result of high growth rates in urban areas.
>
> The membership will meet frequently (monthly) to hear and discuss subcommittee or GITA staff reports about issues or circumstances needing resolution. Subcommittees and task groups will be appointed from within and without the membership to concentrate on specific topics like "right-of-way," or particular legal obstacles to broadband deployment. The charter for the state entity will include its authoritative voice on issues.

Adding the explanation that a "State level Broadband entity" is an umbrella organization for the Task groups helps clarify context questions raised in NTIA's request for additional information.

Given this explanation of context, following are the specific answers to the information requested above

The Tasks to be accomplished fall within three general categories.

1. Analysis and Planning based on the Mapping results, including a State Broadband Strategic Plan (crafted and approved under the direction of the State Broadband entity); maintenance and updating of the plan as current mapping requires; updating, distribution and promulgation of the plan to broadband stakeholders, including communities, providers, policy makers, etc. Budget for tasks associated with

Analysis and Planning, including support personnel, would be about $87K (see Table)

BDIA (Footnote 6) purposes identified are:

5) to create and facilitate by county or designated region in a state, local technology planning teams;
6) to collaborate with broadband service providers and information technology companies to encourage deployment and use;
9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users

2. Identification of Broadband barriers in Arizona, including policy issues, Right-of-Way (ROW), middle-mile infrastructure issues, Arizona regional disparities, etc., and the identification of solutions for these barriers or issues. These issues will require outside consultant expertise. Contracts with consultants will range from $30K to $50K, with 4 or 5 such contracts required over a three year period. Including the additional process support by GITA personnel, budget would be about $178K. (see Table)

BDIA (Footnote 6) purposes identified are

3) to identify barriers to the adoption of broadband service and information technology services;
6) to collaborate with broadband service providers and information technology companies to encourage deployment and use;
9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users

3. Outreach to Arizona Communities, Tribes, State and National forums, committees, councils, etc. Tasks "C" and "D" in the table, detail these activities and their prospective budget requirements. GITA support activities for these tasks include on-site visits across the State, interface and support of community and regional broadband committees, forums and educational events related to the Committee and to stakeholder groups, promulgation of Broadband mapping information in usable and applicable ways, alignment of State strategies with local strategies, promulgation of best practices and policies to the local level. Combined budget for these categories is about $191K over 3 years.

BDIA (Footnote 6) purposes identified are:

5) to create and facilitate by county or designated region in a state, local technology planning teams
6) to collaborate with broadband service providers and information technology companies to encourage deployment and use;
9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users

4. Budget is identified in Task "E" for engaging in all aspects of the Broadband discussion, and soliciting professional participation and partnership, both local and National in support of the project.

   Note: No charge for travel is included in these costs. These costs include outsourced and staff participation (to $90 per hour.). State supported travel for these activities could be considered in-kind contributions to the project.

   BDIA (Footnote 6) purposes identified are
   5) to create and facilitate by county or designated region in a state, local technology planning teams;
   6) to collaborate with broadband service providers and information technology companies to encourage deployment and use;
   9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users

6. BB Planning and Mapping Budget: For both the Mapping and Planning Budgets (these budgets should be distinct), please clarify the following line items. For any line item below for which you do not require funds, please explicitly indicate that the cost is $0.

<u>Mapping Budget</u>:

a. **Overall: Please ensure that costs are clear for both Years 1 and 2, as opposed to both years cumulatively.**

   We believe that the budget submitted distinguishes the Mapping costs for Years 1 and 2 separately. Those costs, for the Mapping budget are:

   Year 1 Mapping Costs = $1,677,084
   Year 2 Mapping Costs = $529,880

b. **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 each year.**

   All personnel costs proposed for being charged for the project are at the established rate of $90 for technical and management services from the Arizona State Land Department (ASLD) and the Arizona Government Information Technology Agency (GITA). These rates include all employee compensation including benefits and include associated indirect costs. The following State staff will be allocated to the project. The staff are listed by their agency and state position title. Their project responsibilities are also described

   <u>Galen Updike</u>, GITA, Telecommunications Manager

   Year 1 = 30% of time dedicated to the project
   Years 2,3,4,5 = 20% of time dedicated to the project each year

   Mr. Updike will serve as overall project manager for the Mapping project. He will provide project oversight for contractors and state staff participating on the project he will act as the

official contact for Arizona with NTIA for project administration. He will also project guidance for the development of methods to obtain broadband data from providers and will interface with both broadband providers in the State and community anchor institutions. Much of Mr. Updike's work on the mapping portion of the project will be in-kind from the State of Arizona.

Gene Trobia, ASLD, Arizona State Cartographer

Year 1 = 22% of time dedicated to the project
Years 2,3,4,5 = 11% of time dedicated to the project each year

Mr. Trobia will be responsible for the technical development and coordination of the mapping project. He will provide coordination between the various project entities GITA, ASLD, and contractor staff for technical planning and development of the project. He will also provide project coordination with the Arizona E911 project and local governments in order to coordinate the use and development of the E911 street centerline data base and associated address points for the Broadband Mapping project. Mr. Trobia will provide overall oversight for the development and operations of the hardware and software components of the Arizona Broadband Mapping Initiative Project. This will include coordination with the hardware and internet service hosting vendor. Mr. Trobia will provide design assistance for development of the Arizona broadband map data base, internet map services, and software.

Gary Irish, ASLD, Chief Information Officer and GIS Manager

Year 1 = 13% of time dedicated to the project
Years 2,3,4,5 = 3% of time dedicated to the project each year

Mr. Irish will be responsible for providing GIS data processing and analysis technical design assistance for the project. He will provide assistance in the design and development of the Arizona broadband map data base and on the processing of data from broadband providers and community anchor institutions into formats required by NTIA and the Arizona Broadband Map. Mr. Irish will also provide design assistance for development of the Arizona broadband map data base, internet map services, and software.

Tapas Das, ASLD, Senior GIS Analyst, Software Developer

Year 1 = 72% of time dedicated to the project
Years 2,3,4,5 = 15% of time dedicated to the project each year

Mr. Das will provide NTIA file and GIS data file development services for the project. He will develop geo-processing and file development software and processing procedures for converting raw data into project standardized files and GIS data bases. He will provide this support for the community anchor institution data but will also provide quality control for NTIA files and GIS data received for broadband service providers through the work performed by project consultants. He will design GIS data formats and data storage structures to house project data and will provide data documentation for the project. Mr. Das will develop software for the internet map services and end user interface associated with the Arizona Broadband map.

Tim Colman, ASLD, Assistant State Cartographer, Software Developer

Year 1 = 51% of time dedicated to the project

Years 2,3,4,5 = 11% of time dedicated to the project each year

Mr. Colman will provide support for the development of the hardware and software components associated with the development and operations of the Arizona Broadband Mapping Initiative. He will interface with the hardware and internet hosting vendor for the project and will provide installation and development services for project hardware and mapping software. Mr. Colman will be responsible for the daily operations of the Arizona Broadband Map providing map services to end users. He will develop data base storage services and data base structures for housing project data and providing the data to the internet map services and to the NTIA. He will provide assistance in processing raw data received from community anchor institutions and project consultants into project stand formats. Mr. Colman will also provide assistance with the design and development of software associated the Arizona Broadband Map.

Carolyn Brown, ASLD, Information Technology Planner

Year 1 = 36% of time dedicated to the project
Years 2,3,4,5 = 9% of time dedicated to the project each year

Ms. Brown will serve as the administrative manager of the project. She will develop a detailed project plan to track the progress of the project. She will be responsible for monitoring the project expenditures and deliverables to NTIA. She will interface with both state project staff and project contractors for reporting of project resources expenditures. She will also develop project status reports for both NTIA and State management. Ms. Brown will provide assistance in tracking the development of project data and development of Arizona Broadband Map. She also will provide assistance in data quality control and software testing and evaluation.

Tony Maslowicz, ASLD, GIS Analyst

Year 1 = 11% of time dedicated to the project
Years 2,3,4,5 = 12% of time dedicated to the project each year

Mr. Maslowicz will be responsible for the development of GIS data support layers for the project. He will process existing supporting GIS data sets needed by the project and data acquired from vendors into formats which can be utilized for the Arizona Broadband Map. He will provide data updates for those data layers for the project and interface with the providers of that data to insure that those data sets are available and updated for the Arizona Broadband Map. Mr. Maslowicz will also provide assistance in processing raw data received from community anchor institutions into standard formats needed by NTIA and the Arizona Broadband map. He will also provide assistance in the software testing and evaluation of project software and the Arizona Broadband Map end user interface.

c. **Travel: Provide additional information such that the basis for all figures is clear. For example, if assuming airplane travel, provided an estimate cost for each roundtrip ticket and how many trips are expected. For mileage, provide an estimate of how many miles are expected and how many trips, etc.**

No travel in included in the proposed mapping budget. When project staff is meeting with community anchor organizations and with local governments for address data other funds would be utilized. These could be considered additional in-kind contributions to the project.

d. **Hardware: 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.**

Descriptions of Hardware to be purchased along with estimated costs are included below. The costs were derived by backing out software costs from an ESRI provided quote for a bundled package.

a. Map Server Hardware, Intel Xeon 1 quad core processors server, 8 mb Cache, 12 GB ram, 2 146 GB disks and Windows Server OS - This is required to act as a platform to host the ArcGIS Server software. The ArcGIS Server software is will provide the map services and geocoding services the Arizona Broadband Map
b. Data Base Server , Intel Xeon 1 quad core processor server, 8 mb Cache, 12 GB ram, 2 146 GB disks and Windows Server OS - This is required to act as a database server for the Microsoft SQL Server software which will store data formatted for GIS use in the Arizona Broadband Map. It will also contain tables for use to provide information for user queries within the Arizona Broadband Map

EQUIPMENT		Purchase	Maint.
Dell R610 One Quad Core Server (per ESRI Specs)		6,000.00	2,000.00
Dell R710 One Quad Core Server (per ESRI Specs) WITH MS SQL Server DBMS		17,000.00	2,000.00
	Subtotal	**23,000.00**	**4,000.00**
	Tax (8.1%)	**1,863.00**	**324.00**
	Total w Tax	**24,863.00**	**4,324.00**
	Outyear Costs		**17,296.00**

e. **Software: For software costs, provide a detailed description of all software products to be purchased, when they will be purchased in the first two years, and the basis for the figures used.**

Descriptions of the software to be purchased along with costs are listed below. All software cost estimates for ESRI software were derived from a quote received from ESRI on August 12, 2009. The cost estimate for the Adobe software was obtained from the web.

a. ESRI ArcGIS Server Standard Enterprise for Windows up to four cores license – This is required to provide the map services and geocoding services required for the Arizona Broadband Map
b. ESRI ArcGIS Server Standard Enterprise for Windows up to four cores staging license – This is required in order to provide a development server for developing the map services required for the Arizona Broadband Map.
c. Adobe Flex Builder Professional (2) - This is required to for developers to develop an Adobe Flex rich Internet viewer
d. Microsoft SQL Server - This software will be used to hold tables of broadband service provision information used for data storage for GIS data and related tabular data to be used in the Arizona Broadband Map. (bundled with hardware server, see hardware)

e. ESRI Developer (EDN) subscription bundle (Software service) – This will be needed to provide technical assistance to the Software developers while developing and maintaining the Arizona Broadband Map

Software		Purchase	Maint.
ESRI ArcGIS Server Standard Enterprise for Windows Up to Four Cores License		20,020.00	5,000.00
ESRI ArcGIS Server Standard Enterprise for Windows Up to Four Cores Staging Server License		10,020.00	2,500.00
ESRI Developer Network (EDN) Subscription Bundle		1,500.00	1,500.00
Adobe Flex Builder Professional v3 2@$699ea		1,398.00	
	Subtotal	**32,938.00**	**9,000.00**
	Tax (8.1%)	**2,667.98**	**729.00**
	Total w Tax	**35,605.98**	**9,729.00**
	Outyear Costs		**38,916.00**

Planning Budget Notes (Portion of "6. BB Planning and Mapping Budget " instructions, identified as paragraph "6", with note that "(these budgets should be Distinct)". Our response and explanation to these instructions (Planning are interleaved between the bolded text per the following:

a. **Overall: Please ensure that costs are clear for both Years 1 and 2, as opposed to both years cumulatively.**
Per the instruction, the Planning Budget table has been amended to include a year-by-year breakdown of the estimated costs per each category (Years 1, 2, 3). **Note also that the final task (Task E) in the original application,** that of **outreach to prospective Broadband Stimulus applicants** will likely be moot, **and has been deleted**, because of potential changes in the Federal grant process (two rounds of funding instead of three). Such outreach and budget support for it are now **included as part of** the processes **identified in our Tasks "C" and "D" respectively.**

b. **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 each year.**
Currently GITA utilizes about 1.5 FTE's for Broadband efforts. The grant will allow a needed increase, or augmentation of current allocations, or transfer of support personnel from within GITA to up to 3 FTE's. The augmented Broadband Planning support staff will divide their time between the various Task Groups activities, per the direction of GITA management. They will provide continuity, reports and work product on behalf of the entity. The new FTE's will have specific technical skills, enhanced personal communications skills, organizational skills, will be knowledgeable regarding Broadband telecommunications, and familiar with Arizona government and policy processes. For the total three positions, two are mid-level management ($75K-$90K per year), with the third being skilled clerical ($40-50K per year). Calculating for additional payroll burden of benefits at 22% results in a combined total about $160K per year, or $480K over three years for the additional 1.5 FTE's. However, only 2/3's of this, or about $320K over three years, is actually being allocated directly to the new planning requirements. Given such reduction over a standard allocation, NTIA is assured of the proficient allocation in the percentages of time for these FTE's. It should also be noted that a surplus of in-kind

dollars are provisioned elsewhere in grant application so that any excess identified here needn't be budgeted or tracked as part of the Arizona's in-kind matching assignment. (Hopefully the unrequited excess identified here will provide additional assurance that Arizona is committed to the goals of this grant and is providing sufficient resources to enable a successful and beneficial outcome.)

c. **Travel: Provide additional information such that the basis for all figures is clear. For example, if assuming airplane travel, provided an estimate cost for each roundtrip ticket and how many trips are expected. For mileage, provide an estimate of how many miles are expected and how many trips, etc.**
Travel for planning will not be charged to the project. Travel expenditures by the State could be considered additional in-kind contributions to the project.

d. **Hardware: 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.** For the BB "Planning" Budget portion of the overall budget, no equipment is required by GITA. Indirect costs are calculated at 14% of total personnel costs, in the table.

e. **Software: For software costs, provide a detailed description of all software products to be purchased, when they will be purchased in the first two years, and the basis for the figures used.** For the BB "Planning" Budget portion of the overall budget, no new software is required.