

## Application for Federal Assistance SF-424

Version 02

## \* 1. Type of Submission:

- Preapplication  
 Application  
 Changed/Corrected Application

## \* 2. Type of Application:

- New  
 Continuation  
 Revision

## \* If Revision, select appropriate letter(s):

## \* Other (Specify)

## \* 3. Date Received:

08/14/2009

## 4. Applicant Identifier:

## 5a. Federal Entity Identifier:

## \* 5b. Federal Award Identifier:

## State Use Only:

## 6. Date Received by State:

## 7. State Application Identifier:

## 8. APPLICANT INFORMATION:

## \* a. Legal Name:

Government Information Technology Agency - Arizona

## \* b. Employer/Taxpayer Identification Number (EIN/TIN):

866004791

## \* c. Organizational DUNS:

108544730

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## \* Street1:

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## \* City:

Phoenix

## County:

## \* State:

AZ: Arizona

## Province:

## \* Country:

USA: UNITED STATES

## \* Zip / Postal Code:

85007

## e. Organizational Unit:

## Department Name:

## Division Name:

## f. Name and contact information of person to be contacted on matters involving this application:

## Prefix:

## \* First Name:

Galen

## Middle Name:

## \* Last Name:

Updike

## Suffix:

## Title:

Telecommunications Development Manager

## Organizational Affiliation:

State of Arizona

## \* Telephone Number:

602-364-4794

## Fax Number:

## \* Email:

gupdike@azgita.gov

**Application for Federal Assistance SF-424**

Version 02

**9. Type of Applicant 1: Select Applicant Type:**

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

**\* 10. Name of Federal Agency:**

Department of Commerce

**11. Catalog of Federal Domestic Assistance Number:**

CFDA Title:

**\* 12. Funding Opportunity Number:**

0660-ZA29

\* Title:

Recovery Act - State Broadband Data and Development Grant Program

**13. Competition Identification Number:**

Title:

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

**\* 15. Descriptive Title of Applicant's Project:**

Arizona Broadband Mapping Initiative

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

\* a. Applicant: AZ-004

\* b. Program/Project: All

Attach an additional list of Program/Project Congressional Districts if needed.

Buttons: Add Attachment, Delete Attachment, View Attachment

17. Proposed Project:

\* a. Start Date: 08/15/2009

\* b. End Date: 09/30/2014

18. Estimated Funding (\$):

* a. Federal	4,296,525.00
* b. Applicant	0.00
* c. State	1,710,610.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	6,007,135.00

19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on [ ]
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes  No Explanation: [ ]

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: [ ] \* First Name: Galen  
Middle Name: [ ]  
\* Last Name: Updike  
Suffix: [ ]

\* Title: Telecommunications Development Manager

\* Telephone Number: 602-364-4794 Fax Number: [ ]

\* Email: gupdike@azgita.gov

\* Signature of Authorized Representative: Galen Updike \* Date Signed: 08/14/2009

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Standard Form 424 (Revised 10/2005)  
Prescribed by OMB Circular A-102

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

[Empty text input area for Applicant Federal Debt Delinquency Explanation]

## **Arizona Broadband Mapping and Planning Initiative Abstract**

The State of Arizona proposes a coordinated, multi-agency project to inventory and map current and planned statewide broadband coverage available to the state's businesses, its educators, and its citizens. The project is authorized by the Governor of Arizona and will be managed by Government Information Technology Agency (GITA), in partnership with the Arizona State Land Department (ASLD) which will host and maintain Arizona's statewide GIS Broadband data warehouse. Consultation and partnerships with other state agencies as well as regional and local stakeholders will be an important and ongoing component of the 5-year effort.

The mapping will rely on a blended approach for collecting data from a host of providers and many governmental sources. The initial effort to meet the timeframes in the NOFA will be intense so that both the required project timelines may be met and so that the mapping effort will provide support to the future broadband grant application programs of NTIA and USDA RUS. The initial efforts will lead to a robust process to continuously update broadband mapping and development in the state of Arizona.

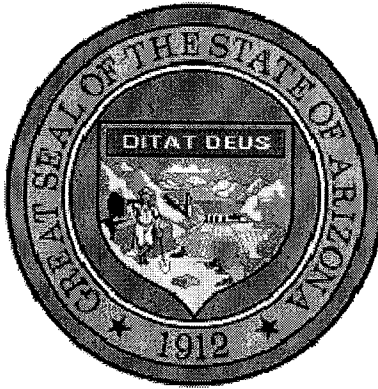
Because of recognized challenges to obtain service provider data, the project will include outsourced collection and verification efforts. Great care has been designed into the program so that availability, quality, and content can be optimized. Quality assurance processes will be included to ensure developed data sent to NTIA, reported through maps and other public information processes, and provided to state and local stakeholders, is at the highest levels of integrity and completeness.

Provider data will be processed with street centerline data with their associated address ranges, and will be indexed and geo-coded by census block. Address data will initially come from commercial databases and will be replaced by the state's E911 street network and address points, thus providing a substantially granular unit record basis for reporting broadband data. For any areas where E-911 are not available, other data sets will be obtained complete an address file for the state. All GIS datasets will be managed by ASLD.

The service data, in concert with the address range information and other available geospatial data sets, will be used to develop state-level broadband availability maps, identifying areas in the state that are well-served by current technologies as well as those that are unserved or underserved. These data will provide an important baseline assessment for Arizona, will facilitate effective dialog in the state regarding use and demand for broadband services, and will assist the state as it seeks to prioritize infrastructure projects and to build a sustainable broadband framework for the future.

Data collected through this mapping project will be provided to the National Telecommunications and Information Administration and the Federal Communications Commission to assist in the development and maintenance of the national broadband map.

In addition to the collaborative mapping effort, a planning component will involve the development of broadband stakeholder groups within each region of the State. A state broadband planning entity, together with state led task groups, will provide strategic planning and strategic broadband policy initiatives for Arizona. These groups will conduct activities that include the identification of barriers to broadband services and the promotion of collaboration with service providers to facilitate the deployment of broadband services. These planning efforts will utilize broadband mapping and demographic information to analyze the use and demand for broadband services. This will facilitate information sharing between the public and private sectors regarding use of and demand for broadband services.



# **Arizona Broadband Mapping & Planning Initiative**

**A Project Proposal for the National Telecommunications and  
Information Administration State Broadband Data and Development Grant  
Program**

**CFDA # 11.558  
Opportunity #0660-ZA29**

**Prepared By: The Arizona Broadband Mapping and Planning Initiative Project Team**  
Arizona Government Information Technology Agency (Designated Eligible Entity)  
Arizona State Land Department  
Arizona State Cartographer's Office

**Date of Application:** 8/14/2009  
**Version:** Final

# Arizona Broadband Mapping and Planning Initiative

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## EXECUTIVE SUMMARY

Since 2002, it has been a State priority to map broadband assets in Arizona. The Arizona legislature appropriated some funding to the Arizona Department of Commerce and the Government Information Technology Agency (GITA) for regional mapping and surveys in 2003-04. Later, in 2006, GITA and Commerce funded an Arizona Broadband Initiative Framework (ABIF) study and report which further directed Arizona Broadband policy. The study noted that mapping of broadband infrastructure would serve two purposes. “The first is to ensure that state agencies, local government, and local economic development organizations are working together to make strategic decisions about regulation and technology investment. The second is to identify those areas with inadequate broadband access so they may be targeted for community planning activities and the investment necessary to establish broadband connectivity.” The study also identified the substantial economic growth for Arizona when broadband became sufficiently available for citizens statewide.

In anticipation of future state and federal outlays for Broadband mapping, in mid-2008 the Arizona Board of Regents (ABOR) provided \$50,000 in funding for “Phase1” of a statewide *Broadband Assessment GIS Study*, the main purpose of which was to identify all public and private data sources in Arizona to be included in a mapping effort. This study instructed future mapping efforts by proposing data taxonomies and processes needed for a GIS mapping data warehouse, and governance roles at the state level. Finally, the *Broadband Assessment GIS Study* identified a “blended approach” to accommodate issues surrounding data acquired from broadband providers, and the policies and best practices used by a number of states useful to acquire, utilize and verify data obtained from industry data sources. The Phase 1 document was distributed widely to other states for their consideration and review.

In summary, Arizona is well prepared to begin a mapping effort funded through a BTOP grant. General state budget deficits have prohibited further state broadband mapping outlays, but the *Broadband Assessment GIS Study* fairly anticipated the Federal legislation and actuated State agency cooperation, especially between GITA, the Arizona State Land Department, and Arizona Department of Commerce, necessary to utilize the Federal Broadband mapping funds and matching state in-kind assets as they became available.

This narrative will detail how GITA, Arizona’s designated mapping entity, will partner with the Arizona State Land Department to manage the project and adhere to all Federal purposes and guidelines. This application narrative will provide substantial detail regarding budgets for the project, the details of Arizona’s matching in-kind support, and will document timelines, tasks, and personnel necessary to accomplish the goals of the project. The application will show how the project is divided into three phases, each distinctive, yet naturally flowing from first to last. It will show how the project will continue for five years, as required by the Feds, but with years three, four and especially five designed to utilize decreasing federal funds while maintaining state based efforts, so that a continuously updated GIS broadband map will be available for state, federal and other uses, even after federal support has ceased.

Finally, the application will document how Arizona will benefit from GIS mapping of its broadband resources. These include better broadband policy initiatives and better planning for



local broadband projects. Because of more easily obtained broadband usage and deficit statistics, the number of BTOP and BIP applications will increase, with a likely increase in total dollars available to improve broadband infrastructure across the State.

## **UNSERVED & UNDERSERVED AREAS IN ARIZONA**

Arizona is divided into fifteen counties, with an average size of about 7,500 square miles. The largest, Coconino County in northern Arizona, is larger in size than nine of the lower 48 States. Populated areas and communities are typically separated by long distances. Two counties, Maricopa and Pima Counties, which encompass the Phoenix and Tucson metropolitan areas, respectively, contain approximately 85% of the State's population. Even these two counties have vast stretches of open land, many rural communities and contain a number of tribal areas.

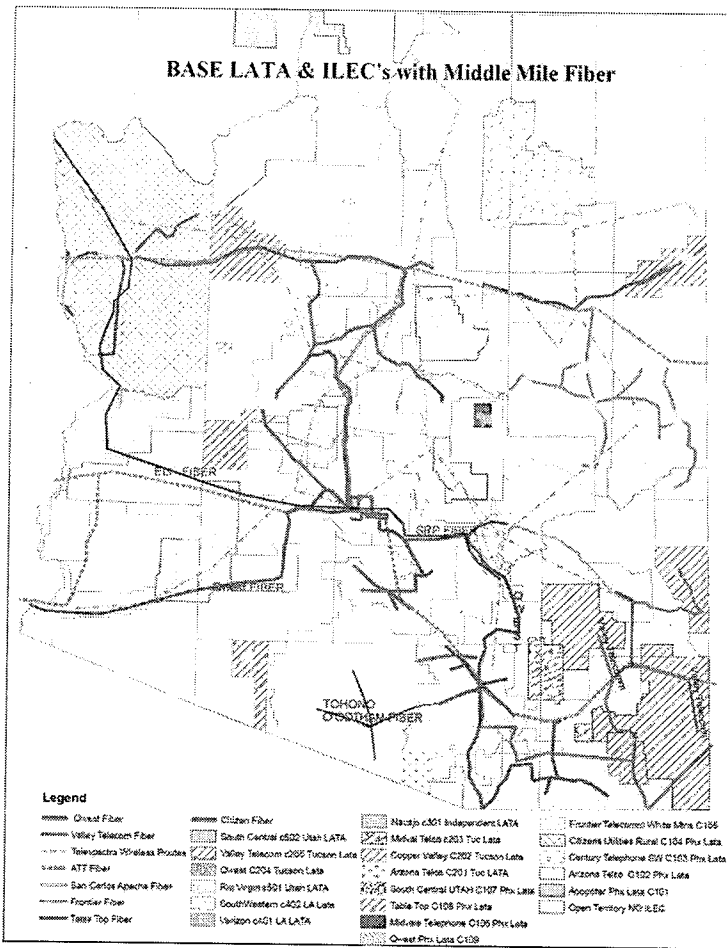
Approximately half the population outside the Phoenix and Tucson metro areas is either *unserved* or *underserved* per the definitions in the NOFA. This claim is based on formal State-funded regional surveys, informal community surveys by RUS loan applicants and others, numerous anecdotal accounts provided to State officials, and conversations with most of the Tribal leaders in the State.

There are 22 federally recognized Tribes and Tribal areas that lie within Arizona's borders. With few exceptions, sparse population, wide open spaces, and other economic and demographic factors have precluded the build-out of broadband infrastructure on Tribal lands. More than three-fourths of Tribal populations can be considered *un-served*. Many areas adjacent to Tribal lands with similar demographic and geographic characteristics are *under* or *unserved* as well.

Estimates in urbanized areas of the State indicate less than 15% of the urban populations are *unserved*, and roughly 25% are *underserved*. Arizona's tremendous population growth in the last decade is at times a major factor in the lack of urban broadband deployment, as population growth has sometimes outpaced the investment capacity of broadband providers. In spite of relatively robust population growth in many rural areas, the problem is even more acute because increasingly scarce capital necessary for build-out is typically allocated to urban areas.

State leadership is committed to provisioning *unserved* areas as the top priority. Current state initiatives, authored jointly between the Government Information Technology Agency (GITA) and the Arizona Department of Commerce, focus on broadband build-out in rural communities across the State. However, geospatial data resources for formal objective analysis and subsequent prioritization has been lacking.

Few GIS-based broadband maps are currently available from government sources to the public.



Some existing maps identify middle-mile infrastructure, potential single points of failure for connectivity, lack of redundancy and stranded capacity. Lack of middle-mile infrastructure correlates with higher priced local internet connectivity. These maps also identify communities with no proximity to fiber infrastructure, and consequently substantial deficits in local internet connectivity.

A broadband mapping grant will support Arizona's policy initiatives which highlight broadband resources as critical infrastructure, and document the correlation between middle-mile deficits and *under* and *unserved* populations. Such understanding will be of highest priority for GITA's mapping effort. In addition to identifying areas of broadband deficit, measuring the impact of broadband grant projects (BIP or BTOP) in the State through

increased broadband infrastructure and economic development will be a top priority. The first iterations of mapping will also provide a baseline against which future broadband service proliferation can be measured.

## 1. DATA

### Overview of Data Acquisition

GITA's recent Broadband Assessment GIS Study (<http://www.azgita.gov/telecom/gisstudy.htm>) provides a significant list of data sources for a comprehensive GIS based broadband mapping effort, including sources for broadband data, public and private, and other supporting data. Below is an overview of primary and secondary data sources, followed by the proposed approach to obtain and use the data.

The primary source for broadband data required to meet the NTIA mapping standards are the broadband service providers themselves. In Arizona, it is estimated more than 75 entities provide broadband services to government, education, business and residential customers. Their

data will be obtained either through direct agreements with the State mapping entity, through contract agreements with a broadband data aggregator(s), or through commercial sources who supply broadband data.

It should be noted that as broadband providers interact with the State and its political subdivisions, either as vendors, contractors, or other services, they leave a data footprint which will be used as a secondary source of broadband data and a means of verification for the State's mapping effort. The aggregation of these State, County and local data provides a statewide view of capacity, limitations and availability of broadband services in most communities across the State.

The State of Arizona has previously developed systems and processes to access and aggregate data from State government and other political sub-division sources. From 2002-2004, GITA managed a process called *Telco Control* to manage state-based data aggregation from various state telecommunications contracts utilized by all levels of government. Subsequently, the State's telecommunications infrastructure was outsourced to a private entity who now manages a process similar to *Telco Control*. These data sources are available under contract for the State's mapping efforts.

Arizona will use the services of both Broadband Services Contractor and GIS Services Contractor (referred to as BSC and GSC, respectively, in the budget) to complement the project team, particularly where highly specialized knowledge or technical skills are required. Following are the details of proposed tasks, assignments and processes to produce statewide broadband maps and provide data to NTIA.

## **1.a. DATA GATHERING**

### **Project PHASE 1 - Development of Initial Broadband Database and Broadband Map**

Phase 1 of the project refines and develops the requirements to conduct the project. It defines and acquires key consultant assistance for the project, and refines requirements for data and technology environments for processing and analyzing the broadband data development environment and the broadband data mapping and display environment. This phase basically prepares the project for acquisition of needed resources. This phase is the key phase for the initial broadband and community anchor institution data development. During this phase, broadband service providers will be contacted and their data holdings relevant to the project goals will be acquired. Non disclosure agreements, project information sheets and data request forms will be developed to make the data acquisition more effective and efficient. The project team will also work with Arizona's community anchor institutions to acquire data from those sources. During this phase, the initial processing of the data will take place to reformat it to meet NTIA file format specification for data delivery and initial data sets. The data will also be formatted to create initial GIS data sets for use as map layers in the Arizona mapping application called the Arizona Broadband Map. This phase will conclude with initial data delivery to NTIA.

## **1.1 - Resource Requirements Definition and Acquisition Component**

This component hires key consultant contractors for the project and refines needs for completing the data and technology environments for processing and analyzing the broadband data development environment and the broadband data mapping and display environment.

### **1.1.1 - Hire broadband services contractor**

A Broadband Services Contractor (BSC) will be hired to assist the project in the identification and collection of the broadband service data from private service providers operating in Arizona. The contractor will perform a number of tasks associated with data collection but will also work closely with the GIS Services Contractor (GSC) to ensure the collected data will contain the needed information content to construct both the files required by the NTIA and files used to create GIS data for use as map layers in Arizona's Internet accessible Broadband Map. The contractor will provide important telecommunications industry expertise for the project.

### **1.1.2 - Hire GIS services contractor**

A GIS Services Contractor (GSC) will be hired to assist the project in processing basic broadband services data from the broadband service providers. The contractor will utilize data obtained from the telecommunications industry from the BSC. The GSC will assist in the development of the data request form specifications, and will develop processes to take the wide variety of data received from providers in Arizona and convert it to formats required to be delivered to the NTIA. The contractor will also utilize the raw data received from the private industry broadband service providers to create standardized GIS data sets for use in developing map layers for the Arizona Broadband Map. The contractor will also assist in database design tasks for storing and managing incoming raw data and subsequent processed data. Other tasks associated with designing and developing GIS data needed for the project will be assigned to the GSC.

### **1.1.3 - Refine map layer requirements and data requirements for layers to produce Arizona Broadband Map**

This task will refine map layer requirements and data requirements needed to produce the Arizona Broadband Map. These basic requirements will provide guidance for developing data requests from broadband services providers and community anchor institutions. They will also assist in developing map layers and information content accessible from the Arizona Broadband Map.

### **1.1.4 - Refine requirements for supporting data needed for processing broadband services and producing map layers**

This task will refine requirements for supporting data sets needed to process the broadband data for producing map layers. A number of supporting data sets related to telecommunications industry, GIS reference data such as street centerlines, city boundaries, topography and

demographic data will be needed to assist in processing the incoming data from broadband service providers and community anchor institutions.

#### 1.1.5 - Refine hardware, software and services required to process the broadband services data and map data

This task will refine the hardware, software and services needed to process the broadband services data and map data. The project will establish an environment to house the processed broadband services. Hardware and software for geoprocessing tabular data set development and manipulation must be available so that the incoming data can be processed for conversion to NTIA required formats and for the development of map layers for display within the Arizona Broadband Map.

#### 1.1.6 - Refine hardware and software requirements for storing and managing the broadband database and serving the broadband map

This task will refine the hardware and software requirements for storing and managing the broadband database and serving the Arizona Broadband Map. A hardware and software environment must be established consisting of servers for creating, managing and publishing map and geoprocessing services and for storing and managing data. Standard information technology functions such as system security, Internet connectivity, operating system maintenance and data backup must be secured for the technology base of the project to properly function and provide the necessary data access and display services.

### **1.2 - Data Collection Component**

Broadband service provision data for the Arizona Broadband and national broadband maps will be gathered for the project from a number of private and public entities operating in Arizona. Because of the large number of organizations involved, both the inter-organizational acquisition arrangements and the technical structure of the data may vary considerably. Because of the short time frame given to collect and process data, the Arizona project team will utilize a systematic approach to manage diversity and make data gathering and processing as efficient as possible.

Two major issues exist in dealing with multiple organizations to obtain data. Organizations must first understand the objectives of the Broadband project, as well as the environment into which they will release their data. This includes the public nature of the broadband mapping project as well as the uses for which the data will be employed. This information must be communicated in an efficient and effective manner in to facilitate the large number of data transfers required. The NTIA recognizes that many service providers are sensitive to general release of their data. To garner their cooperation, non-disclosure agreements are a tool which may be employed in the data gathering process. Organizations must be comfortable with release of their data, and the mutually agreeable conditions under which it will be maintained and released.

The second major issue with data gathering is the diversity of the data itself. It is anticipated that due to the wide diversity of private and public organizations that will provide data, it will be

provided in a wide variety of formats. Likely formats include GIS data sets, CAD data sets, as well as tables, spreadsheets flat text files of addresses or lists of coordinate locations.

Geospatial data will also be needed to process and validate of broadband provider and community anchor institution data. Additional GIS data sets will provide geographic reference for map production and map display. Data such as geospatial portrayals of socio-economic data and other information will also provide context for current broadband adoption status in Arizona, and progress in broadband adoption over the course of the project.

In order to effectively and efficiently gather the data required by NTIA and the Arizona Broadband Map, the following tasks constitute the proposed data gathering approach. These tasks are listed with a task number and name followed by a brief explanation of the task.

#### 1.2.1 - Develop project information sheets for working with broadband service providers and community anchor institutions

Since there are a large number of organizations which must be approached with data requests, it is paramount they understand project goals and how their data will be utilized, including the extent to which data will be made public via the map displays of the Arizona or national broadband maps. Because some data will be sensitive, non-disclosures will be provided when necessary. In order to make the initial contact and explain the project and its data needs as efficiently as possible, the project team will construct information sheets which may be emailed to potential data providers in advance of meetings, followed by more detailed conversations related to data provision. These sheets will be utilized for both private data providers and community anchor institutions. It is likely that several sheets containing common and unique components would be developed in order to approach organizations in the best light possible and to facilitate their understanding of the project and the data that will be requested. These information sheets will facilitate rapid understanding of the project. and accommodate multiple divisions in an organization such as management, technical administrative and legal that may need to approve data provision.

#### 1.2.2 - Develop a data request form for working with broadband service providers and community anchor institutions

It is important that data providers also understand the technical nature of the data request and preferred data formats. It is advantageous for the Arizona Broadband Mapping team to receive data in specific formats to minimize data processing. The data request form will present the request pooled as a single request for a list of information.

The details and taxonomies of the NTIA files are easily converted through proposed data conversion processes. Therefore, the data elements for NTIA files will be reorganized and presented to data providers again to facilitate rapid understanding of the request. Because data will exist in a variety of forms and sometimes in multiple formats within an organization the request forms will ask for specific data elements in the most desirable form followed by less than perfect but acceptable formats. For example, in Technical appendix A Sections 3.a “Last Mile Connection Points” requires location based elements of the file as decimal degrees with

latitude and longitude coordinates. It would be preferable for the team to acquire data directly in that format, however it is likely that data may exist as degrees, minutes or seconds, or as address locations or on CAD drawings or as GIS points in a planar coordinate system. By listing these alternatives in order of preference the team will be able to obtain the best available data from the data providers in the most desirable format. The most desirable format is the one closest to the NTIA requirements with other forms have varying levels of desirability. These request forms will allow project staff to rapidly assess what is available from providers and determine the most desirable format. It is anticipated that negotiating format will be on a case by case basis because the project team must be prepared to process the data in a variety of formats and not rely on providers to provide data in the most desirable format if it requires them to spend considerable time preparing their data. The forms will be an important tool to expedite the initial delivery of raw data to the project team.

#### 1.2.3 - Develop Non-Disclosure agreement templates and interagency agreement templates for use in broadband and community anchor data acquisition

Although it is expected that some organizations may readily provide the data for the project, many will require some form of agreement and some will need non-disclosure type protections before providing the required data or certain data elements. The fact that the NTIA does not require mapping of key infrastructure of service providers should help in negotiating the non-disclosure details. In other cases where public agencies are involved, other agreement types can be utilized to facilitate data exchange. Recently the Arizona State Legislature passed SB1318 which facilitates the exchange of geospatial data between public agencies. This new statute will provide a legal mechanism to assist in the acquisition of geospatial data sets and associated attributes. Provisions in the Statute allow for agencies to exchange data rapidly and hold it against third party requests by notification at delivery time. This may make exchange of data from public organizations easier to execute. In lieu of the utilization of this statute, existing data exchange forms may also be utilized.

In order to facilitate the exchange of data the project team will develop non-disclosure templates customized for the project where non-disclosure is an issue. A telecommunications (broadband) industry specialist who will be part of the team will assist in the development of the non-disclosure templates. Both GITA and ASLD, have access to assistance from the Arizona Attorney General's Office for review or other assistance, if necessary. The non-disclosure templates can then be further customized with data types and/or elements being provided by specific organizations.

#### 1.2.4 - Contact / meet with private broadband service providers to introduce project and request data

The project team will utilize a telecommunications industry consultant to assist in acquiring the data for provision to NTIA and for utilization on the Arizona Broadband Map. The consultant will have a deep understanding of the telecommunications industry, how facilities and services are structured and how data is stored and managed. The broadband consultant will also have an understanding of the basic industry participants in Arizona and be familiar with the Arizona Telecommunications and Information Council (ATIC) and its data holdings on the Arizona

telecommunications industry. The consultant will develop a list of the broadband providers in Arizona from which data acquisition can be planned and tracked. The broadband industry consultant will utilize project information sheets, non-disclosure templates and project data request forms to contact and meet with potential data providers in the industry. The consultant may utilize other project team members from GITA, ASLD or a GIS consultant when specialized knowledge of geospatial data formats, processing or other issues is required.

#### 1.2.5 - Obtain broadband service data for private service providers based on data specification requirements

The project telecommunications consultant will make arrangements to receive the data, track the receipt and verification of the data to insure that all basic raw data files requested have been received, and all administrative and legal instruments are in place to receive and manage the data by the project team.

#### 1.2.6 - Verify broadband data based on data specification requirements

Once requested data has been received, the project team will verify it contains the data elements required by the NTIA in Technical Appendix A of the NOFA. If the data received contains the specified data elements then it is available for data processing, delivery to NTIA and for production of map layers for the Arizona Broadband Map.

#### 1.2.7 - Obtain GIS data from Arizona State Land Department and other public sources needed for broadband data processing and for map production

In order to create the data layers necessary for the Arizona Broadband Map, particularly those which provide geographic context and the ability to spatially overlay and analyze broadband status against socioeconomic or other factors, a variety of GIS data sets are needed. Examples include, city and county boundaries, census enumeration areas (tracts, blockgroups, blocks etc.), topographic information such as hill shades to illustrate wireless propagation area. Many of these data layers exist in the Arizona State Land Department's Arizona Land Resource Information System (ALRIS) database or the Arizona Geographic Information Council's Geodata Portal. Copies of the data for use in the project will be obtained from these and other public sources in Arizona. If necessary, project information sheets and agreement templates will be used to obtain this data.

#### 1.2.8 - Obtain GIS data from private sources for broadband data processing and broadband map development

It is anticipated that some private GIS data sources will be utilized by the project. A statewide street centerline data set will be utilized for matching addresses received from the broadband service providers and community anchor institutions. This data set will also be utilized to create a user service for geocoding address locations for placement on the Arizona Broadband Map to determine the availability of broadband services at a specified address.



Data sets of current socioeconomic data may also be acquired for use in tracking barriers to adoption or other issues related to the build-out of broadband services in Arizona. Such data sets are commercial products and will be acquired under licenses allowing use of the data for data processing, analysis and the Arizona Broadband Map. They would not become part of any data delivery package provided to NTIA or other requestors, however their use will be critical, particularly for the initiation of the project. Other sources may become available as the project progresses.

#### 1.2.9 - Meet with public and community anchor institutions to introduce project and request data

Many of the same issues associated with data acquisition from private broadband data providers will need to be addressed to obtain data from Arizona's community anchor institutions, like communicating the scope and nature of the project, the specifics of the data request, and any administrative/legal issues. Project participants from GITA and ASLD will meet with the institutions and utilize project information sheets, data request and data exchange forms to facilitate data provision.

As public entities, the Government Information Technology Agency and the Arizona State Cartographer's Office have access to and familiarity with organizations who can supply data for community anchor institutions. Organizations such as the State CIO council, Arizona Counter-Terrorism Information Center (ACTIC), Arizona Geographic Information Council (AGIC), Arizona State Library and Archives, the State Department of Education and the Arizona School Facilities Board, the Arizona Department of Administration and the Department of Economic Security are all accessible to the project team as potential data sources for community anchor institutions. Local Government organizations such as the Arizona Association of Counties and the Arizona League of Cities and Towns can be approached for assistance also. The Arizona State CIO is also a participant on the project and can provide assistance at the highest levels in State Government, and request assistance from the Governor's Office and cabinet if necessary.

#### 1.2.10 - Obtain broadband service data from community anchor institutions (State Agencies, etc) based on data specification requirements

The project participants will make arrangements to receive the requested data from the community anchor institutions and insure that agreements and other arrangements are in place. GITA and ASLD will track the receipt and verification of the data to insure that all basic raw data files requested by project have been received and that all administrative and/or legal instruments are in place to receive and manage the data by the project team.

#### 1.2.11 - Verify community anchor institution data based on data specification requirements

Once requested data have been received from the community anchor institutions the project team will verify that it contains the necessary data elements to create the records for files to be provided to the NTIA as described in Technical Appendix A of the NOFA. If the received data from the community anchor institutions contains the specified data elements then it is available for data processing, delivery to NTIA and for production of map layers for the Arizona Broadband Map.

### **1.3 - Initial Data Processing for Broadband Service and Community Anchor Institution Data Development and Delivery Component**

The initial data processing of community anchor institution will be similar to that received from the private broadband service providers. Again, it is expected that data will be received in a variety of forms. The project participants performing these tasks will need to process raw data, the GIS services consultant for the private broadband services data and the Arizona State Land Department for the public data and community anchor institution data, respectively. This processing will utilize a variety of geo-processing and data processing techniques to process the data into the required formats for NTIA delivery and the Arizona Broadband Map.

#### **1.3.1 - Process private broadband service provider data in accordance with NTIA specifications and for map layer use**

The project will engage the services of a Geospatial data consultant to process raw broadband service provider data into files which meet the specifications required by Technical Appendix A of the NOFA. While these are mostly tab delimited text files and one ESRI format shape-file, they all require critical location information as latitude and longitude coordinates. Since it is expected that the creation of these files will require considerable knowledge and experience in processing geospatial data, such as coordinates and address geo-processing, datum and projection transformations, a consultant will assist the public partners in processing of the raw data for submission to NTIA and for provision of information to the Arizona Broadband Map.

Raw data will vary considerably in file format, spatial reference and spatial location format. A number of processes will need to be utilized by the GIS services consultant to process raw data into the proper format, integrate it with other data in the proper sequence, and create field types and formatted records as required by NTIA. Some of the data requested will be needed for production of Arizona Broadband Map data layers. In order to prepare data for use and display in the Arizona Broadband Map the GIS services consultant will need to process data into map layers.

#### **1.3.2 - Process public broadband service data and community anchor institution data in accordance with NTIA specifications and for map layer use**

Technical Appendix A part 4 “Community Anchor Institutions” requires a tab delimited text file containing latitude and longitude coordinates for the spatial location fields. Since many organizations will not keep their spatial location data in that format the Arizona State Land Department will need to utilize its GIS expertise to create and format spatial location data into degrees minutes and seconds from a variety of potential locational file and data formats including shape file, spreadsheet, CAD or other file formats and degrees minutes and seconds or planar UTM or State Plane coordinates, street addresses or other spatial reference formats. The associated data on connection technologies and speed may also be provided in a variety of data file formats for multiple anchor institutions. These data will need to be standardized and possibly joined to spatial locational information. The data will then need to be formatted as required by the NTIA. Much of the same data provided in raw form for production of NTIA tab

delimited files will also need to be processed to create ESRI shape files for use in the Arizona Broadband Map. A number of spatial data manipulations and data processing procedures will need to be executed to stage the data to create a shape file for mapping use.

#### 1.3.3 - Manage NTIA data sets and GIS database

With the number of raw, semi-processed and final processed files which need to be handled for this project, along with GIS data for processing support and map layer usage, it is critical that the project develop and utilize a data storage and management plan to track project data, data sources and lineage. The GIS data consultant and State Land Department technical staff assigned to the project will develop a data management directory schema and data management standards for the project. These standards should allow for discovery of data lineage and processing history. Data should be managed in consideration of its sensitivity and non-disclosure status to insure data is not inadvertently released in violation of any non-disclosure agreements.

### **1.b. ACCURACY & VERIFICATION (by March 1, 2010 – Project Phase 1)**

#### 1.3.4 - Verify processed data meets NTIA requirements for NTIA data delivery

In preparation for data delivery the State Land Department will verify that data processed by the GIS contractor and State Land Department personnel assigned to the project meet the requirements for data delivery to the NTIA as specified in Technical Appendix A of the NOFA.

#### 1.3.5 - Verify processed data meets map layer requirements

The State Land Department will also verify data received from broadband service providers and community anchor institutions is processed and meets requirements for use as mapping layers. Other tasks in the Arizona project plan identify data layers needed for mapping purposes. To the extent that base information for those layers comes from broadband service provider and community anchor institution data, it will need to be verified that it is in proper format to produce the required map layers.

#### 1.3.6 - Identify any gaps in data necessary to meet NTIA Requirements

In preparation for initial delivery of data to NTIA the collected data files will be analyzed against the requirements of the NOFA for completeness and gaps in the data will be documented. This documentation will be used along with a data verification report to guide the development of the final initial complete data sets which will be produced in Phase 2 of the project.

#### 1.3.7 - Send initial data set to NTIA with notification and explanation of any gaps

The initial data set meeting NTIA data requirements as detailed in Technical Appendix A will be delivered with notification and explanation of any gaps identified.

## **1.b. ACCURACY & VERIFICATION (through September 30, 2010 – Project Phase 2)**

The number of variations in primary data from broadband providers will necessitate various methodologies to verify the accuracy of each vendor's data. Generally, verification will be directed at specific locations or areas identified by the Vendor data. Arizona's governmental databases which form secondary views of broadband availability (under contracts with vendors) can be used regarding capacities and pricing. Other types of data verification may also need gathering, especially for wireless data sources. Contemplated for wireless verification, in addition to standard verification, is spectrum analysis of an area purportedly served by a vendor. Both Government entities and private consultants can be utilized to check Wireless spectrums strength and coverage to determine signal strength, "noise", spectrum conflicts and other concerns.

One resource available to the broadband mapping verification process contemplated in Arizona is from the Arizona Telecommunication and Information Council (ATIC), a non-profit entity dedicated to expanding Broadband and advanced telecommunication capacity in Arizona. In 2001 funds were made available from a variety of sources, including a grant from the State of Arizona, to create an Arizona Telecom Directory. It is maintained today under the auspices of the ATIC, and includes a website where both updating of provider data takes place, and queries by the public can be answered as to what telecom services are available in a specific Zip Code area or in a County. ATIC will donate their database to the Arizona Broadband Mapping and Planning Initiative effort.

The process of Verification of Primary Vendor/Provider data is detailed here.

### **Project PHASE 2 - Data Verification, Delivery of Final Data Set and Production of the Arizona Broadband Map Component**

In this phase the initial database will be assessed for accuracy. A number of techniques will be used to determine accuracy of the data. These determinations along with any gaps from the initial data delivery will be addressed in this phase. Necessary adjustments will be made to the data to complete identified gaps in coverage and to provide increased quality of the provided data. A final data set based on these adjustments will be delivered to NTIA during this phase. This will represent Arizona's complete data set. Also, during this phase Arizona will produce its initial broadband map, called the Arizona Broadband Map. This will be an Internet accessible interactive map providing information about the status of broadband services within the state.

#### **2.1 - Broadband Data Verification Component**

The broadband data verification process will refine a plan to verify accuracy and gaps in the submitted and processed broadband service data. The plan will utilize a variety of data resources such as existing industry coverage data sets, publicly available geospatial data, and data from 9-1-1 services. In addition, standard surveying techniques to determine availability and speed at

specific addresses will also be developed and targeted for use in areas where quality of the data is least reliable.

#### 2.1.1 – Refine the plan to verify accuracy of the broadband database

During Phase 2 the project team will refine its plan to verify the accuracy of the broadband database developed in Phase 1. The plan will be composed of two major components generally corresponding to the level of accuracy required by NTIA in Technical Appendix A of the NOFA, and the subsequent alternative census block level assessments detailed in the clarification announcement of August 12, 2009. The Census block assessments corresponding to the census block reporting will be accomplished by analysis of the data in comparison with a number of industry databases and the Arizona Telecom Directory (ATD) database of providers in the State. These spatial and logical assessments will be accompanied by survey assessments using a variety of survey techniques. This phase will also set the stage for more desirable address level verifications in future years of the project by working closely with the Arizona 9-1-1 Program Office to complete the development of the e9-1-1 point location database for the state. With a completed database the state will be able to utilize an address point location geospatial data set to determine addresses covered, and those not covered, with various types of broadband services as specified in the NOFA. Thus the assessment process will have greater tools at its disposal as the 9-1-1 point location database is completed for the state.

#### 2.1.2 - Obtain as required, third party private telecom information to assist in the broadband data verification process

In this task a number of third party private telecom information data sets such as American Roamer Wireless Coverage data, TeleAtlas Telecom Data Wire Center data for Arizona, the complete Media Print Cable boundaries for Arizona and other data sets will be acquired for the verification analysis process. These data sets will assist in implementation of the analysis plan for both the block level analysis and the out years analysis based on address points and lists.

#### 2.1.3 - Obtain Arizona Telecom Directory (ATD) data to assist in broadband data verification process

The Arizona Telecom Directory (ATD), a project of the Arizona Telecommunications and Information Council (ATIC) (<http://www.arizonatele.com/atic/>), provides an information directory and database of telecommunications providers in Arizona. The directory and accompanying database will be useful in providing guidance and additional data for the verification process.

#### 2.1.4 – Acquire existing data resources. AZ Imagery, street centerlines and other state and local data

The verification process will also utilize aerial imagery, street centerlines and other data from state and local agencies to assist in the verification process. These will be acquired from Arizona State and local agencies for use in the verification process.

### 2.1.5 – Initiate completion of a statewide address point file with the Arizona e9-1-1 database for use with broadband assessment and verification.

The Arizona 9-1-1 Program will be an invaluable resource to the project for data development and verification. The program office housed in the Arizona Department of Administration has oversight responsibility revenues collected through the Emergency Telecommunication Service Revolving Fund. Revenues are generated through a telecommunications services excise tax rate of \$0.20 per month for wireline, wireless and voice over Internet protocol (VoIP) phones. Funds are used to implement and operate emergency telecommunication services (9-1-1) through political subdivisions of the state. The program is developing geocodable street networks and address point locations for all of Arizona to assist with the operations of e9-1-1 in the state. Their office will work with project to provide data to assist the Arizona Broadband Mapping and Planning Initiative. Rich data sets of geocodable street networks and address points exist for many of Arizona's counties, particularly those with large urban centers. A number of the State's more rural counties, however, are still developing these data sets. These are also the areas where broadband coverage is most lacking. The e9-1-1 Program has well established relationships with local governments across the State. The Arizona Broadband Mapping and Planning Initiative project team will assist in the completion of the databases for rural Arizona. Arizona e9-1-1 will in turn provide data to the Broadband Mapping Initiative to assist in data development and verification processes. This task will provide cooperative funding to develop address points for rural parts of the state to help complete the street and address points 9-1-1 database.

### 2.1.6 – Implement data verification plan and analyze the results to identify data gaps

A contractor will be acquired to assist in completing and implementing the verification plan. The contractor will assist the project team in utilizing the data sets acquired in the previous tasks, along with development and implementation of traditional surveying techniques to verify the data obtained from broadband service providers. The contractor will utilize scientific surveys and "crowd-sourcing" techniques for areas where data is less reliable to determine accuracy levels of the acquired broadband service data. Telephone surveys, speed tests, provider website advertised coverage, on-line user surveys and speed assessments, mail surveys and other standard survey techniques will be developed and targeted to areas where validation is most needed.

### 2.1.7 – Develop a plan to close gaps and adjust data based on results of the data gap analysis

Once the results of the data verification and accuracy assessments are returned a plan will be developed to determine which gaps are most beneficial and feasible to close.

## **2.2 - Final Data Production and Delivery Component**

This component will develop and implement strategies to improve and adjust the broadband service assessment data based on a final analysis of gaps and data quality. These strategies will depend on the assessments of the data and will be designed to produce the best data possible for the final initial submission to the NTIA.

### 2.2.1 – Obtain & Adjust outstanding data necessary if required by data gaps and data verification plan results

This task will develop and implement a strategy to obtain data to fill in gaps and improve data quality where it would be most beneficial for the final initial data submission. These are likely to be very targeted tasks at specific geographic areas and/or specific provider data.

### 2.2.2 - Verify processed data meets NTIA requirements for NTIA data Complete any outstanding data development tasks in accordance with the gap analysis of initial data delivery

Once data for adjustments are obtained, they will be processed and integrated into the final initial data submission to the NTIA.

### 2.2.3 - Provide NTIA with final adjusted and verified data.

This task will provide the final adjusted and verified data to the NTIA as Arizona's complete initial data set.

## **1.c. ACCESSIBILITY**

### **2.3 - Arizona Broadband Map Development Component**

The Arizona Broadband Map will provide information on the extent and character of broadband service and its utilization in Arizona. The map is envisioned as an interactive Internet application map service that can display multiple map layers associated with broadband data, as well as geographic reference information such as county and city boundaries, street networks and topography. The map will provide information to a number of diverse groups including the citizens of Arizona seeking to find out more information about broadband availability in particular locations, public agencies concerned about broadband deployment and adoption in Arizona, and private groups concerned with broadband availability and adoption. The Arizona Broadband Map will display the extent of broadband services in the State along with information about types of services (cable, DSL, wireless etc.) and speed of service. The Arizona Broadband Map will also provide methods to view the progress of broadband adoption in Arizona, and a number of geographic coverage extents in the state such as the locations of service providers coverage, speed parameters associated with services provided, types of services provided, and rates of adoption of broadband per unit area. As the project progresses and multiple years of data become available change layers will be generated and posted to illustrate advances in service coverage and broadband availability. Barriers to adoption related to age, income and other factors will also be examined and considered for posting as display layers.

The Arizona Broadband Map will utilize ESRI GIS software for data manipulation in preparation for map layer development, map layer data development and map services development and management. ESRI ARC/INFO software will be utilized for tasks associated with data manipulation and preparation and development of raw data from the broadband service

providers and community anchor institutions. The software will also be used to prepare other GIS data sets obtained from the State Land Department, the AGIC Geodata Portal and other public agency sources for use as map layers in the Arizona Broadband Map, or as support layers for data processing.

The Arizona Broadband Mapping database will contain all of the data for the project including raw data, delivered data and data rendered into map layers. The general contents of the data base are as follows:

- Raw data received from broadband service providers and community anchor institutions
- Processed data from the broadband service providers and community anchor institutions along with any supporting data to create NTIA delivery files
- Processed data converted into GIS data layers for display on the Arizona Broadband Map
- GIS data layers of supporting information or for display on the Arizona Broadband Map
- GIS data layers to track progress of broadband deployment in the State

The data sets will be stored in a directory structure to accommodate both delivery dates of data to NTIA, and to segregate data protected by non-disclosure. Metadata containing lineage information will be stored with the database.

The Arizona Broadband Map will be provided through the use of ESRI ARCGIS Server software to create map services for displaying the various map layers. Geoprocessing services, such as address geocoding, will provide functionality beyond simple pan, zoom and identify functions. A user-friendly web browser interface and simple help system will provide easy access to the system.

The map layers will also be available, by request, for other work related to broadband status and adoption in Arizona to the extent that non-disclosures or other data source restrictions allow.

### 2.3.1 - Process private broadband service provider data in accordance with NTIA specifications for map layer development

Many of the data sets that will be provided by broadband service providers and community anchor institutions will be utilized not only as raw data for development of NTIA required text and shape files, but also as base information for the production of GIS data and as map layers for the Arizona Broadband Map. This data will be processed into GIS data sets for service provision areas for wire-line providers, and wireless foot prints for wireless providers. In some cases, providers may supply data in a readily consumable form. But in other cases, extensive data processing of spatial locational data with GIS software will be required to convert raw data into GIS map layers. It is anticipated that address geocoding, spatial reference conversions (datum and projection work), feature identifier and key field development, associated table development and table relationship development will be required to create the data layers. As these processes are developed and put into production, data conversion diaries will be kept to facilitate future automation of many of these tasks.



### 2.3.2 - Process public broadband service data and community anchor institution data in accordance with specifications for map layer development

The processing of public broadband service and community anchor institution data will be similar in nature and scope to that from private broadband service providers. It can be expected that this data will be received as raw data into the project in a variety of formats. As with conversion to the NTIA text file, these data will also need conversion work to convert them to GIS data layers for display on the Arizona Broadband Map. While the data conversion work to create the NTIA file will produce an intermediate file for this work, additional data elements such as more elaboration of the institution type will be needed for map display. As with the private broadband service processes, data conversion diaries will be kept to facilitate future automation.

### 2.3.3 - Process additional GIS data (geographic reference and other supporting data sets) to meet specifications for map layer development

Additional GIS data sets for map layer display will be obtained from the Arizona State Land Department, the AGIC Geodata Portal, and other public agencies in Arizona. These data will need to be analyzed and processed to some extent in order to prepare them for use as map layers within the Arizona Broadband Map application. In addition to these data sets, other data sets obtained from private sources may need to be processed to some extent in order to prepare them for display.

### 2.3.4 - Obtain hardware, software and other services necessary to host and service the Arizona Broadband Map

Hardware, software and any necessary data subscription and data services must be procured for the project. A production server and a test and development server will be established in order to provide discreet development and production environments for the Arizona Broadband Map application. Both environments will consist of a server utilizing ARCGIS Server software for map and geoprocessing functionality. Web services, security services and data backup services will be provided by the Arizona Department of Administration under contract.

### 2.3.5 - Install and test hardware, software for Arizona Broadband Map

Contracts for hardware and software installation will be initiated in order to speed up the process of establishing the hardware and software facilities to host the Arizona Broadband Map. Hardware installation will be performed by the Arizona Department of Administration via its Data Center services list. Software installation will be performed by ESRI as part of the software purchase.

### 2.3.6 - Develop Arizona Broadband Map configuration files to produce map layers

Map configuration files will be developed for displaying the GIS data as map layers within the Arizona Broadband Map application. Setting data pathname, subsetting of data through

selections, assignments of symbology and other tasks will need to be implemented in order to construct configuration files for development and display of map layers.

### 2.3.7 - Develop map services for Arizona Broadband Map

Similarly, map services for the Arizona Broadband Map will need to be constructed and tested to develop the Arizona Broadband Map. These services will utilize ARCGIS Server to provide map services to display the map layers. Other services such as address geocoding will need to be constructed for the Arizona Broadband Map application. The Arizona imagery server, maintained by the Arizona State Cartographer's Office and Arizona State University as an ARCGIS Server imagery service, is available as a plug-in service to provide imagery for geographic context to support the Arizona Broadband Map.

### 2.3.8 - Develop Arizona Broadband Map functional software requirements

In order to provide guidance for developing the functional software for the Arizona Broadband Map, a set of functional requirements will be developed. These requirements will specify which data sets appear accessible to the user, and how these can be manipulated by the user. These requirements will also provide guidance on how data is displayed and summarized for users in the application. Standard interactive capabilities such as panning and zooming and identification of attributes will be specified for inclusion as user interface functions. Functions such as address geocoding, allowing users to type in an address and discover the status of broadband services in Arizona, will need to be specified along with other geoprocessing functions that may be desirable. The method by which progress on broadband service extension in Arizona will be displayed on the application will also be developed. An overview design document will be produced to guide the development of the Arizona Broadband Map application.

### 2.3.9 - Develop custom functional software for the Arizona Broadband Map

Upon completion of the functional software requirements for the Arizona Broadband Map application the end user application will be developed. This will require software development to customize the interface for display functionality and user interactivity specified in the software design overview document. ARCGIS server currently can provide services to and integrate with sophisticated rich web application development environments such as Adobe's Flex and Microsoft's Silverlight. Application Programming Interfaces are available for these environments to interface rich end user web interfaces with the map and geoprocessing services provided by ARCGIS Server. The Arizona Broadband Map will utilize one of these environments to create the Arizona Broadband Map's end user interface for accessing the map layers of the Arizona Broadband Map and performing user query operations against the map services.

### 2.3.10 - Test and deploy the Arizona Broadband Map

The Arizona Broadband Map end user application will be developed in a test environment and deployed in a production environment. This will allow testing of new data sets and new

capabilities over the course of the project without affecting the production version of the Arizona Broadband Map.

## **2.4 - Arizona Broadband Map Adjustment Component**

This task will adjust the Arizona Broadband Map to accommodate updates of the final data. While the collected broadband service data is being processed, verified and adjusted, the Arizona Broadband Map will be in development and in draft form. This task will update any built data layers to reflect final adjusted broadband service data sets.

### **2.4.1 Adjust Arizona Broadband Map layers based on updated and verified data**

Existing map layers showing broadband service areas will be adjusted with new data from the quality adjustments and gap closure work associated with data

### **2.4.2 Insert adjusted map layers into the Arizona Broadband Map**

The adjusted map layers will be posted to the Arizona Broadband Map, completing the initial portrayal of broadband geographic coverage and service types in Arizona.

## **1.d. SECURITY & CONFIDENTIALITY**

Public transparency is an important consideration for establishing credibility for the project and gaining the support and cooperation of service providers and other stakeholders. The methodology for data collection, analysis, verification and the intended use of the data, including restrictions due to confidentiality, will be clearly described in the service provider information sheets (*see 1.2.1 Develop Project Information Sheets*), on GITA's public website, and the Arizona Broadband Map application itself.

Per NTIA NOFA guidance, all data collected will be made available to the FCC and other federal agencies. For data retained by Arizona, metadata standards will be implemented to ensure all data collected retains its origin and usage restrictions associated with licenses or non-disclosure agreements. Data subject to non-disclosure, due to privacy concerns or explicit agreement of confidentiality, will be segregated from disclosed data, either logically by database schema and data attributes or physically discrete databases where practicable or required by state security standards.

In cases where equivalent data are made available from two or more sources, the least confidential source will determine the level of confidentiality maintained for public purposes. For example, if data are provided by a service provider under an NDA while the same data are obtained by another source without restriction, the least restrictive agreement will govern distribution.

The Arizona Broadband Map application will provide public access to broadband availability, technology options and service level statewide. These data will be collected at the address level

where required by census block size, and aggregated to protect confidentiality and privacy. For example, if an individual queries the Arizona Broadband Map for broadband availability at an individual address, the results will not disclose any personal information or service provider data held in confidence, but rather broadband availability in the census block in which that address resides.

Hardware, software, data and network infrastructure for the Arizona Broadband Map will be hosted at the ADOA Data Center (*see 2.3.4 and 2.3.5*). This is a secured facility with 24/7/365 security guards onsite, interior and exterior surveillance, uninterruptible power supply (UPS) battery backup, diesel generator backup, and Halon fire suppression and climate control throughout the data center.

Regarding privacy, all personal information collected by state agencies in Arizona is subject to statewide privacy and security policy and standards. Arizona defines personal information as “any information that may be used to identify an individual, including, but not limited to his or her name, social security number, physical description, race, ethnic origin, sexual orientation, income, blood type, DNA code, fingerprints, marital status, religion, *home address*, home telephone number, education, financial matters, and medical or employment history readily identifiable to a specific individual.”

State of Arizona Information Technology Security Policy (P800) -

[http://www.azgita.gov/policies\\_standards/#security](http://www.azgita.gov/policies_standards/#security)

- S805 - IT Risk Management Standard
- S825 - Session Controls Standard
- S830 - Network Security Standard
- S885 - IT Physical Security Standard
- P170 - Privacy Policy

## **2. PROJECT FEASIBILITY**

### **2.a. APPLICANT CAPABILITIES**

See *Budget Appendix* for budget narrative and detailed budget.

### **2.b. APPLICANT CAPACITY, KNOWLEDGE & EXPERIENCE**

The Arizona Broadband Initiative Mapping project is under the authority and auspices of the State of Arizona Government Information Technology Agency (GITA), directed by the State CIO. The Arizona State Land Department (ASLD) is GITA’s principle partner in the project. From these two agencies come the leadership, authority, and capability to both manage and provision the scope of the project to meet the requirements of NTIA, and the strategic initiatives of the State of Arizona. These are the premier State agencies in Arizona providing leadership in broadband and GIS technology development. Both Agencies will lend internal staff for managerial, technical and clerical support to the project, as needed. Both GITA and ASLD have

substantial experience in oversight and management of outsourced service contracts, which the project will require.

Following is biographical information and a brief narrative regarding the relevant experience of the principle leaders of the project:

### *Executive Sponsor*

**Chad Kirkpatrick** – State CIO and Director, Arizona Government Information Technology Agency

Chad Kirkpatrick was appointed Director of GITA in April, 2009. As the Director of GITA, he is the State's Chief Information Officer (CIO) and is a member of the Governor's Executive Cabinet. GITA was created in 1996 to serve as Arizona's agency responsible for planning and coordination of all information technology. Mr. Kirkpatrick has oversight responsibility for all strategic technology planning in the State, and also has day-to-day administrative responsibility over GITA's operational budget, and a number of statewide policy initiatives including Cyber Security Policy, Data Privacy, and the State of Arizona Web Portal, an important part of the State's e-government initiatives.

Kirkpatrick comes to GITA with a wealth of technology oversight experience from Wells Fargo Bank, where he has served for six years in increasingly important roles, most recently as vice president and business systems manager of Compliance Services MIS (Management Information Services). While at Wells Fargo, he created the *MIS Roadmap* to assess the current MIS environment, identify MIS goals and develop an action plan to align technology and business needs. Working with the finance, operations and marketing teams he helped to develop and led corporate efforts to create a next generation process using common data definitions and corporate reporting standards. While at Wells Fargo, Kirkpatrick received two leadership excellence awards: team leadership and the annual excellence in action award, and numerous other leadership awards.

Kirkpatrick's public service includes serving as chairman of Americans for Prosperity Arizona, a tax payer advocacy group he helped grow into one of Arizona's largest grassroots organizations. Previous to his Wells Fargo position he had significant responsibility and leadership roles within two Fortune 500 company IT teams. Kirkpatrick received his Bachelor of Arts in Political Science from George Washington University in Washington, D.C., and went on to earn his Master of Arts in Applied Economics from The American University.

Regarding the Arizona Broadband Mapping and Planning Initiative, Kirkpatrick's statutory role as State CIO defines his leadership role over GITA's management of the project, and over the stewardship responsibilities of GITA's Telecom Development Manager, who is the Authorized Organizational Representative (AOR) for the grant, as defined in the NOFA. As CIO, GITA has statutorily based oversight responsibility for all data information exchange and interagency data operability, and for data acquisition processes necessary for the project. These are key factors in the Governor's decision to "designate the Government Information Technology Agency (GITA), an agency of the State, as the authorized designee for mapping broadband availability in

Arizona.” Of necessity, a close relationship will be maintained between GITA and the Arizona State Land Department, a nexus for the State’s GIS mapping expertise and processing abilities.

### ***Project Coordinator***

**Galen Updike** - Telecommunication Development Manager at State of Arizona Government Information Technology Agency (GITA)

Since August 2003, Galen Updike has been the Telecommunication Development Manager at State of Arizona Government Information Technology Agency (GITA). He is actively involved as a panelist and speaker at many regional and national conferences, joining with others in the important discussions about strategies, best practices and how to deploy the broadband infrastructure required for America’s success in the world-wide Information Age.

Prior to working at GITA, Updike’s professional career spanned 29 years in high-tech systems and applications, and as a consultant, representing a number of resellers, system integrators and manufacturers. From 1986 through 1992, he also owned and operated his own company, Compu-Source. Over these many years, he has been part of or has had oversight responsibility for hundreds of technology and data projects, large and small.

In addition to a professional career, Updike has provided significant public service. He was appointed to the Arizona House of Representatives 2000-2001 District 29 (Mesa) to fill and unexpired term. His service also includes nine years of active involvement in the Arizona Telecommunications and Information Council (ATIC), and as a past board member of Greater Arizona E-learning (GAZEL), promoting Arizona’s e-Learning industry. He was appointed by Governor Hull for a two-year term as a member of the Arizona Physical Therapy Board. Over the years he has had leadership roles in various professional associations including as President of the Arizona’s Independent Computer Consultants Assoc. (ICCA), and as an elected member of the Minority Business Enterprise Input Committee (part of Arizona’s Minority Council).

Mr. Updike is GITA’s manager responsible for the *Arizona Broadband Mapping and Planning Initiative* project. He will work closely with and rely upon GITA’s administrative team, clerical team, and project management resources, as well as the Arizona State Land Department, Broadband Services Consultants (BSC) and GIS Services Consultants (GSC). As the administrative agency, GITA will have budget responsibility, project oversight responsibility, outsourcing contract responsibility (coordinating with the Arizona State Land Department and State Procurement Office), state interagency technology exchange or data exchange relationships. GITA will also be primary interface with NTIA regarding this project.

Mr. Updike received his Bachelor of Arts Degrees in Asian Studies and History in 1974 from Brigham Young University.

### *Technical Project Coordinator*

**Gene Trobia** - Arizona State Cartographer, Arizona State Land Department (ASLD)

Gene Trobia has served as the Arizona State Cartographer for over thirteen years. The State Cartographer is responsible for developing and managing a long-term program for collecting, updating, and disseminating statewide GIS data resources and services in an Arizona GIS clearinghouse. The State Cartographer's Office (SCO) was established in State statute in 1988 and was funded by the Arizona State Land Department in 1995.

The responsibilities of the SCO are identified in Arizona state statute. Examples of those duties identified in statute include: provide maps, aerial photographs and other remote sensing data to help analyze natural resources, as well as infrastructure and demographic data; assist with mapping, inventorying and data analysis; establish a liaison relationship with federal mapping organizations and other state and local government organizations in order to coordinate activities in this state relating to collecting, compiling, producing and processing geospatial data; and identify local digital geospatial data to include in a state and national clearinghouse. Through his work with the SCO and Arizona Geographic Information Council (AGIC), Gene establishes state GIS standards, coordinates multi-agency projects and provides improved access to geospatial databases.

Gene has worked in the geographic information field for over twenty-six years. He previously worked for the Utah Automated Geographic Reference Center and Pima County's Engineering and Geographic Information Services in Tucson, Arizona. Gene holds a BLA and MLA in Landscape Architecture from the University of Arizona. He serves on the board, and is a past President, of the Arizona Geographic Information Council, serves as the current Chair of the Arizona Geographic and Historic Names Board, is the Arizona representative and Co-Chair of the Western Governor's Association Geographic Information Council. Gene is a member of the Arizona Professional Land Surveyors Association Geospatial Committee. He is also a member of the National States Geographic Information Council (NSGIC), where he served on Board of Directors from 1997-2004, is a **NSGIC past President** and is currently the Co-Chair of the NSGIC Outreach Committee. Gene also served on the National Academy's Mapping Science Committee from 2005 - 2009. Gene works on a daily basis with the NGS State Geodetic Advisor and the State Cartographer's Office sponsor has sponsored the Arizona Geodetic Advisor over the last ten years. Gene is the Principle Investigator and has overseen the activities of the Arizona Height Modernization Program for the last three years. For the Arizona Broadband Mapping and Planning Initiative, Gene will serve as the Technical Project Coordinator. Gene is a GIS and geospatial data subject matter expert and will facilitate national, state and local project coordination, perform inter-organizational GIS and geospatial data coordination, and provide technical advice.

### ***Technical Oversight Manager***

**Gary Irish** - Director, Information Systems and Resource Analysis Division, Arizona State Land Department

Gary Irish is currently the Director of the Information Systems and Resource Analysis Division of the Arizona State Land Department. Among the associated duties of that position he is the Department's CIO, a position that he has held for 10 years and its GIS Manager a position that he has held for 20 years. He is responsible for the planning, budgeting and operations of the Department's information systems including its enterprise wide GIS. His duties include staff supervision of IT and GIS staff as well as providing technical specifications and guidance for the development of the Department's GIS. He provides oversight to the Department's Enterprise GIS system which provide GIS data bases, custom geo-spatial applications and mapping capabilities to Department staff who utilize the these capabilities to assist them in the management of Arizona's 9.2 million acres of State Trust Land and associate resources. The Division also manages a large geospatial data base for use in the system and develops analytical models and other automated routines for data development, maintenance and map production.

The Division has a lead role in provide GIS technology assistance to public agencies in Arizona under Arizona State Statute. Under those responsibilities the Division performs a number of duties to assist the development of geospatial data and GIS in Arizona. The Division administers Arizona's legislatively established GIS coordinating Council, the Arizona Geographic Information Council, which helps promote the development and use of GIS in Arizona as well as fosters and conducts cooperative data and standards development projects and provides educational opportunities. The Division also is very active in providing GIS data to public agencies and private entities throughout Arizona through a number of methods one of which is through the operation of the States GIS data distribution Internet portal. The Division is has been actively involved in helping to develop GIS data and systems in Arizona for over 25 years.

Gary has considerable experience in the development and management of geospatial data not only through his current activities but through previous jobs. He has 29 years of experience in the geo-spatial data develop and GIS operations field. Before assuming his current positions he worked and a GIS project manage and supervisor of the GIS Section at the Arizona State Land Department for 3 years, as a remote sensing and raster based GIS specialist for the National Aeronautics and Space Administration for 3 years and as a remote sensing and GIS software instructor for 3 years. Gary hold a MS degree in Geography from Texas A&M University and a BS degree in Geography from Texas State University. For the Arizona Broadband Mapping and Planning Initiative, Gary will serve as the Technical Oversight Manager.

***A Broadband Services Contractor (BSC)*** will be hired to assist in the identification and collection of broadband service data from private service providers operating in Arizona. The contractor will perform a number of tasks associated with data collection but will also work closely with the GIS Services Contractor (GSC) to ensure the collected data meets the specifications of the NTIA and Arizona's Broadband Map. The BSC will complement the



organizations represented by the team above with specialized technical and telecommunications industry knowledge and expertise for the project.

A **GIS Services Contractor (GSC)** will be hired to assist the project in processing basic broadband services data obtained from broadband service providers, data from community anchor institutions and a host of other data types into geospatial data sets. The GSC will assist in the development of the data request form specifications, and will develop processes to take the wide variety of data received from providers in Arizona and convert it to formats that meet the specifications of the NTIA. The contractor will also utilize the raw data received from the private industry broadband service providers to create standardized GIS data sets for use in developing map layers for the Arizona Broadband Map. The GSC will also assist in database design tasks for storing and managing incoming raw data and subsequent processed data. Other tasks associated with designing and developing GIS data needed for the project will be assigned to the GSC.

### **3. EXPEDIENT DATA DELIVERY**

The State of Arizona will be able to provide timely information as required by the NTIA. The project is designed to minimize the time required to initiate work, produce the data sets required by NTIA, and develop and publish an interactive internet accessible map, the Arizona Broadband Map.

#### Arizona Broadband Mapping and Planning Initiative Project timeline

The Project Phases and Years Conceptual Overview graphic (*Fig. 1 below*) illustrates the State of Arizona's proposed schedule for data delivery to the NTIA. Also illustrated are the project phases and a statement of the data delivery and Arizona Broadband Map status for each phase. In phase one, the project will provide to NTIA a substantially complete data set by February 1, 2010. During that phase the project resources will be assembled and data will be acquired from Arizona's broadband service providers and community anchor institutions. The data will be processed into the NTIA format and delivered to the NTIA.

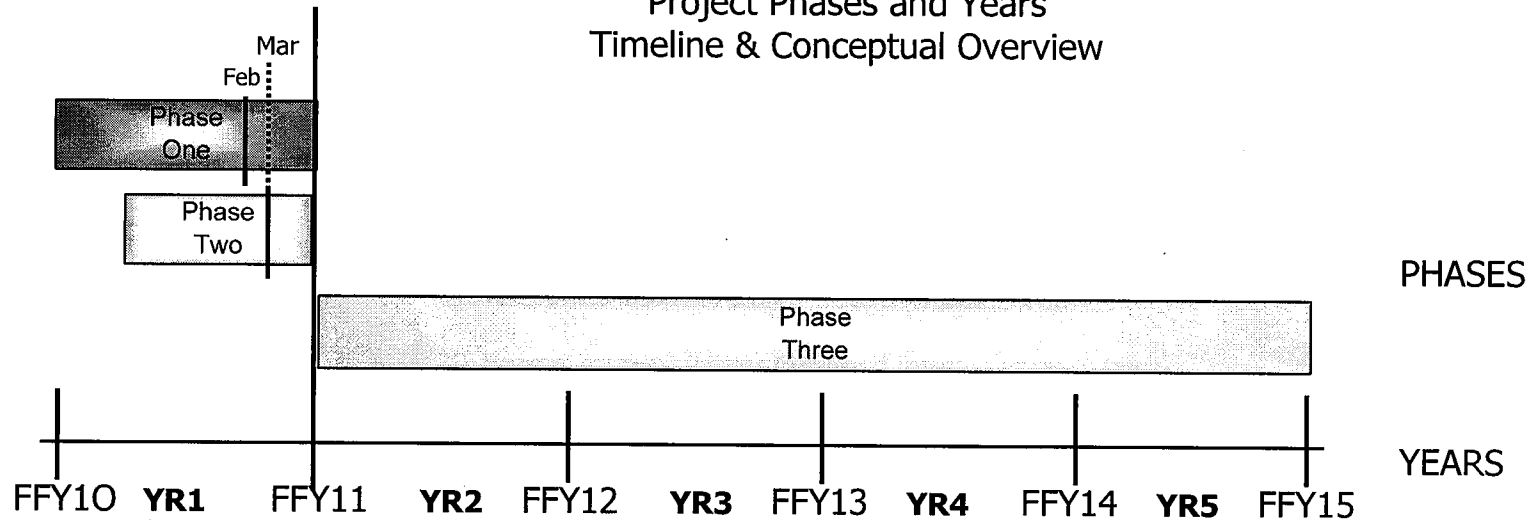
In phase two, the initial substantially complete data set will be reviewed and evaluated for accuracy and data gap issues. The accuracy and data gaps will be addressed to the extent possible during this phase, and a final data set will be delivered to NTIA by March 1, 2010. This will represent Arizona's first official data set for the project. During this project the hardware, software and data will be assembled for the development of the Arizona Broadband Map. The on-line interactive map application will be developed during this phase. Phase three (years 2-5) is considered the operational phase and the NTIA data and map layers for the Arizona Broadband Map will be updated on a 6 month basis as required by NTIA.

### Ability to Complete the Project Within the Proposed Timeline

If a funding award is made to the State of Arizona we will be able to initiate project activities immediately and meet the goals established within the proposed timeline. We will be able to achieve these timeline goals because of the following:

- Resource requirements for the project were designed such that the critical hardware, software, data and contractor resources needed for the project are all currently under Arizona State contract so no lengthy RFPs will be required to ramp up the project
- The strong project leadership team has considerable combined experience in telecommunications and GIS technology
- The State of Arizona recently completed a large state wide Broadband Assessment GIS Study which provides a wealth of information about the location and current status of data which can be incorporated in the currently proposed mapping initiative
- Arizona has a number of organizations active in providing information about broadband services in the State, as well as coordinating activities to foster the build-out of broadband services in unserved or underserved parts of the State. Two important organizations which can be drawn on for obtaining data and other assistance for the project are:
  - o The Arizona Telecommunications and Information Council (ATIC) and its Arizona Telecom Directory (ATD) database
  - o The Arizona Broadband Connect (ABC) Initiative, a state program to provide financial, administrative and technical help to expand economic development opportunities in rural Arizona by substantially improving broadband connectivity between selected communities and the Internet.
- Recently passed legislation (SB1318) provides enhanced methods for public agencies to quickly share GIS data. This will help speed up data collection from state and local governments in Arizona.

## Arizona Broadband Mapping and Planning Initiative Project Phases and Years Timeline & Conceptual Overview



**Phase One:** Provide initial substantially complete set of availability data with all data obtained by Feb. 1, 2010. Additional data will be provided as available to fill in gaps.

**Phase Two:** Implement data verification and analyze results. Conduct ongoing data collection and verification of Broadband Data. Provide final first data set to NTIA by March 1, 2010, and develop and implement the Arizona Broadband Map.

**Phase Three:** Operationalize, update and maintain databases and Arizona Broadband Map, and provide data to NTIA per designated schedule.

**Figure 1:** *Arizona Broadband Mapping and Planning Initiative Timeline & Conceptual Overview*

## **4. PROCESS FOR REPEATED DATA UPDATING**

### **Project PHASE 3 - Bi-Annual Maintenance of Broadband Database and Arizona Broadband Map (Years 2-5)**

#### **3.1 - Develop and Refine Plans for Data maintenance and Broadband Progress Tracking Component**

In order to provide updated data to the NTIA and maintain the Arizona Broadband Map plans must be refined to provide details of the data update and map update processes. These tasks will provide documents for detailing the data and map maintenance processes. The other tasks in this Phase provide general overviews of the data and map maintenance processes and the approach that will be taken by the State of Arizona. However, for the purposes of actually updating the data and the Arizona Broadband Map the work listed in this section will provide guidance and direct the update process.

##### **3.1.1 - Refine plan for updating the broadband database and Arizona Broadband Map for project years 2-5**

After the initial complete data sets have been delivered to NTIA, and the initial Arizona Broadband Map is developed and deployed, a plan needs to be refined to guide the data update and delivery process and updates to the Arizona Broadband Map. This plan will be an overview document setting out milestones, deliverables and responsibilities for update processes for years 2-5. Schedules will need to be set to ensure delivery dates can be met for delivery of data to NTIA. This plan will guide the interactions between State of Arizona participants and its contractors providing services for the project.

##### **3.1.2 - Develop plan for reporting progress on broadband accessibility and adoption, and for displaying those factors on the Arizona Broadband Map**

An additional overview plan will need to be developed to provide details on how progress in broadband accessibility and adoption will be portrayed on the Arizona Broadband Map. Changes in data obtained from the providers of broadband services, and changes on broadband access parameters associated with the States community anchor institutions will change over the years as broadband services are extended. This plan will anticipate these changes and how they will be reflective in new, updated GIS map layers and other data associated with changes in broadband status. The plan will develop a method to process incoming data reflecting change over time, and then update the Arizona Broadband Map.

#### **3.2 - Update and Deliver Broadband and Community Anchor Databases**

In years 2-5 the NTIA will require biannual updates of the data sets developed for its use from the data collected from Arizona broadband service providers and from community anchor institutions. For both types of data, the production processes to format the raw data files from the sources and convert them to NTIA format delivery files will be similar. As with the original

data deliveries the raw data will need processing into the NTIA formats. This will require data processing and GIS functions to be performed on the raw data to set the spatial locational information required by NTIA, and then processing of the data to create the required related data. The same processing will be required for the community anchor institution data. Since the original processing of the received data will track procedures utilized, there will be opportunities for some automation of these processes during this period.

### 3.2.1 -Biannual broadband data and community anchor institutions data collection

In order to maintain consistency during the project and meet the data delivery schedules Arizona proposes to utilize the same organizational and contractor structure as utilized on the initial data set development. This will entail utilization of a broadband services contractor to acquire the data from the private service providers and ensure that agreements securing the use of the data are in place and current. Since it is probable that the data environments will change for some providers during the course of the project the contract will also need to provide assistance in adjusting the data collection and processing procedures to accommodate changes and coordinate with the GIS contractor and the State agency participants when changes to incoming data occur.

In years 2-5 the State Land Department will continue to obtain data from the community anchor institutions and process the data for delivery to NTIA, and for use as updates to the community anchor institution map layers in the Arizona Broadband Map.

### 3.2.2 -Biannual processing and verification of broadband data and community anchor institutions

A GIS services contractor will continue to format the incoming broadband services data to NTIA standards and prepare data for use as map layer updates for the Arizona Broadband Map. Community anchor institutions update data will be processed by the State Land Department to create updated data sets to produce files for NTIA and for use to produce map layer updates for the Arizona Broadband Map. In both cases, the incoming data streams will be analyzed for opportunities to develop automation process to make subsequent processing more efficient.

### 3.2.3 - Provide NTIA with biannual updates of verified broadband and community anchor data.

Data processed for delivery to NTIA will be verified against NTIA standards to ensure that files are in the necessary format. The files will be delivered to NTIA on a biannual basis.

## **3.3 - Update the Arizona Broadband Map**

The Arizona Broadband Map will require updated map layers to track progress on broadband deployment in Arizona, and to ensure functional services such as address geocoding continue to operate at maximum effectiveness. These tasks will update map layers and associated GIS reference data, and update map services which provide access to the data. Because requirements to display broadband data and track broadband adoption progress may change, new software capabilities may be added to the application as needed.

### 3.3.1 - Update broadband service and community anchor map layers and update supporting GIS data map layers

In years 2-5 the Arizona State Land Department will biannually update the broadband service and community anchor map layers on the Arizona Broadband Map as new data is processed and converted to GIS data sets for use as updated map layers. GIS reference data utilized as map layers in the application such as streets, city boundaries and other dynamic data sets will also be updated during this part of the project.

### 3.3.2 - Update broadband adoption and progress tracking map layers

In years 2-5, as new GIS data sets and other data sets are made available by the updating process, information and map layers to illustrate change in broadband services availability will be updated. Biannually the Arizona State Land Department will develop and update the progress tracking map layers for the Arizona Broadband Map.

### 3.3.3 – Update map services and develop, test and deploy new software capabilities to Arizona Broadband Map

During years 2-5 of the project as data are received and processed, GIS data sets and map services for the Arizona Broadband Map will need to be updated and tested. Some change in display and geoprocessing services requirements is expected during the course of the project. Some software updates will be needed to incorporate updated capabilities as well.

## **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**

In order to ensure continuous operations of the Arizona Broadband Map, the hardware and software facility that supports the data storage and map services environment will need to be maintained. Supporting GIS data sets such as street centerlines and other data will also need maintenance to maintain currency. These tasks ensure that the hardware, software and data infrastructure necessary for the management, storage and display of project data and the Arizona Broadband Map are maintained and kept current.

### 3.4.1 - Maintenance for Hardware / and Upgrade Hardware (Once) for broadband service and community anchor institutions data bases and Arizona Broadband Map

Maintenance of hardware for the production and development servers utilized for developing and providing the Arizona Broadband map will be needed for the course of this project in order to sustain the project's technology infrastructure. It is also anticipated that over the five-year period one upgrade of the hardware platform will be needed in order to ensure continued reliability of the Arizona Broadband Map application.

### 3.4.2 - Maintenance for base software for managing the broadband services and community anchor databases and for providing the Arizona Broadband Map

The software utilized for developing and serving the Arizona Broadband Map will also need to be maintained during the course of the project. This task will maintain the reliability and updates of that software to sustain the map services during the project.

### 3.4.3 - Maintain private supporting data subscriptions for use in processing the broadband and community anchor institutions data and for displaying on the Arizona Broadband Map

During the project, private GIS data for processing the broadband and community anchor institution data, for verifying data accuracy and for displaying geographic context for the Arizona Broadband Map will need to be supported with maintenance to maintain currency.

### 3.4.4 - Update supporting publicly available GIS data layers for the Arizona Broadband Map

Data to be acquired from the Arizona State Land Department and other public organizations for use in the project will also need to be maintained during the course of the project. GIS analyst time to acquire and format the data will be needed during the course of the project.

### 3.4.5 - Maintain Hosting Environment at Arizona Department of Administration Data Center

A critical component of the technology infrastructure of the project will be provided by the Arizona Department of Administration (ADOA). ADOA maintains a centralized data center for use by Arizona State agencies and supplies server and web service hosting, as well as robust security, operating systems, data backup and Internet access services. The data center will house test and production hardware servers running ARCGIS Server map and geoprocessing services for the Arizona Broadband Map, and the Arizona broadband database.

## **5. PLANNING & COLLABORATION**

### **5.a. COLLABORATION**

The scope of this mapping process necessitates significant collaboration with stakeholder, institutions and governmental entities at all levels. Without such collaboration, a blended approach, as has been chosen by GITA for the Arizona Broadband Mapping and Planning Initiative would not be possible. In addition, the same entities which provide data for mapping will also share in the enthusiasm and in the good use of the resulting maps and data sets that will become available through this project.

#### **State Agency Collaboration**

GITA has partnered with many State Agencies and other anchor institutions in utilization of combined data sets for critical initiatives in the state, and proposes to renew and extend these partnerships to create a complete, robust representation of

community anchor institutions. The following is a list of partners that have been or will be approached by GITA to build and sustain the geospatial datasets representing these critical broadband end-users.

Arizona Department of Administration (ADOA)  
Telecommunications Program Office (TPO)  
Arizona Department of Commerce (ADOC)  
Arizona Workforce Program  
Arizona Department of Economic Security (DES)  
Arizona State Land Department (SLD)  
State Cartographer Office (SCO)  
Arizona Geographic Information Council (AGIC)  
Arizona Geological Survey (AZGS)  
Arizona Department of Public Safety (DPS)  
Arizona Dept. of Homeland Security (DHS)  
Arizona Division of Emergency Management (DEM)  
Arizona Department of Education (ADE)

Arizona School Facilities Board (SFB)  
Arizona State Library, Archives and Public Records (ASLAPR)  
Arizona Corporation Commission (ACC)  
Arizona Department of Transportation (ADOT)  
Arizona Department of Revenue (ADoR)  
Arizona Department of Real Estate (ADRE)  
Arizona Department of Health Services (DHS)  
Arizona Health-e Connections (AzHeC)  
Arizona Department of Environmental Quality (ADEQ)  
Arizona Independent Redistricting Commission

### **County Collaboration**

Besides state-level coordination, GITA has also partnered with and established relationships with most of the county governments in the state, and is currently working with the County Supervisors Association within the State of Arizona which represents all 15 counties in the state, in both broadband and emergency response initiatives.

### **Institutional Collaboration**

Further, GITA has established relationships and will collaborate with the following statewide institutions:

Arizona Telecommunications & Information Council (ATIC)  
Arizona's Universities  
Arizona Board of Regents (ABOR)  
Arizona State University (ASU)  
Northern Arizona University (NAU)  
University of Arizona (UA)  
Arizona Investment Council (AIC)  
Arizona Association for Economic Development (AAED)  
The League of Arizona Cities and Towns

Arizona City/County Management Association (ACMA)  
CANAMEX Smart Corridor & CyberPort Projects  
Arizona Prospector (APS & ADOC)  
Arizona Indicators Project  
Arizona Association of Public-Safety Communications Officials  
International (APCO)/National Emergency Number Association (NENA)  
Arizona Regional Review Committee (ARRC)  
Amateur Radio Council of Arizona (ARCA)

### **Building on Previous Collaborative Efforts**

Finally, GITA will rely on task groups and relationships established during its former chairmanship of the Communication Infrastructure Advisory Committee (CIAC) created by the Governors Council Innovation and Technology (GCIT). The agencies and organizations below have been instrumental in creating and advancing broadband policy and build-out across the state.

Arizona Dept of Commerce  
Arizona Department of Transportation (ADOT)  
Arizona Corporation Commission  
Arizona Board of Regents

Central Arizona College  
Arizona Technology in Education Association (AZTEA)  
Arizona TeleMedicine



League of Cities & Towns  
Connect Tech International  
Tohono O'odham Nation  
Chase Bank

Arizona County Supervisors Assoc.  
Arizona Public Service (APS)  
Salt River Project (SRP)

Also serving with these institutions were representative members of the broadband provider industry not listed here.

### **GITA's Phase I Broadband Study as a Source for Collaborative Efforts**

It should be noted, that GITA has relied heavily upon both the principles and the relationships created through the its authorship of the GIS Broadband Assessment Study prepared and completed by GITA in January, 2009. This 287 page study enumerated broadband mapping strategies and data collection processes and identified a number of best practices and case studies across the nation.

The link to this study is: <http://www.azgita.gov/telecom/gisstudy.htm>. This \$50,000 Phase I study provides an exceptional foundation for Arizona's Phase II mapping effort.

## **5.b. BROADBAND PLANNING**

The following are the BDIA requirements as noted in the NOFA for Planning Requirements:

- 1) to develop and provide a baseline assessment of broadband deployment in each state;
- 2) to identify and track the areas with low levels of deployment, the rate at which residential and business users adopt broadband service and other related information technology services, and possible suppliers of such services;
- 3) to identify barriers to the adoption of broadband service and information technology services;
- 4) to identify the available speeds for broadband connection;
- 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;
- 7) to establish computer ownership and Internet access programs in unserved and areas with lower than average penetration on a national basis;
- 8) to collect and analyze detailed market data concerning use and demand for broadband service;
- 9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users; and 1
- 10) to create within each State a geographic inventory map of broadband service.

The NOFA requirements for planning match up very well with GITA's role regarding telecommunications policy and the goals that GITA is chartered to work toward.

GITA's role regarding broadband telecommunications was initially defined in Arizona Revised Statute in 1995 with the establishment of the Governor's Telecom Policy Office (TPO). The TPO became part of GITA in 2000 with similar roles and duties maintained since that time

through the Telecommunications Development Manager, or as delegated to others by the Director. Those roles and duties include:

- Establish and coordinate statewide telecommunications policy
- Bring together state, local, tribal governments, and business, industry, education and health care entities to address shared telecommunications interests
- Assist in the development of plans for public and private telecommunications systems
- Study, evaluate and advise state agencies, the legislature, institutions of higher education, tribes and local governments on matters of telecommunications policy, including services and systems, and telecommunications procurement practices
- Assist in the development of proposed legislation relating to telecommunications
- Coordinate telecommunications grant requests to the federal government
- Participate in national discussions about telecommunications infrastructure and issues, serving as a conduit for the public and private sectors concerning innovative telecommunications projects, programs and demonstrations
- Advocate economic development issues relating to telecommunications

GITA has found that the logistics required to accomplish the tasks and purposes in its telecommunications charter requires an organizational structure and formal participation by a wide range of stakeholder interests. From 2005 through 2008, GITA chaired a state subcommittee called "Communications Infrastructure Advisory Committee," or CIAC, which supported the Arizona Governor's efforts to build Arizona's economy. It soon became apparent that this committee needed to be a stand-alone committee to be more effective.

In addition, GITA is continuing its work with sister agencies in the state, specifically the Arizona Department of Commerce, to actuate local and typically rural broadband development by the creation of community-based and local stakeholder-based organizations to facilitate broadband build-out at the local level. These efforts have born fruit and have led to the creation of many local broadband stakeholder organizations which now coordinate well with regional and state interests. It will be a short step from our current activities, both with Commerce and subcommittee activities regarding economic development, to a state level entity which has a charter to accomplish the NOFA and BDIA requirements.

Basically, the non-mapping purposes and projects enumerated by BDIA can be rendered into a simple question: "What should be done with the information, both strategic and tactical, that is derived from a state mapping effort?" The map will show in great detail broadband availability, capacities, and deficits, both structural and logistical, throughout the state. For example, in Arizona we already know that middle mile infrastructure is the key issue for last mile delivery of broadband services. The details of the deficiencies, however, need documentation in order for policy makers and providers to identify the extent of the problem. Once those problems and deficiencies have been identified, the next step is to begin crafting solutions. Looking at middle mile issues one quickly understands that middle mile deficits in one region of the state often have huge impacts in local areas hundreds of miles away. Coordination and discussion at a state level is required to accommodate unintended effects and consequences of specific local conditions affecting broadband service in a different political jurisdiction.

Through a process of evaluation and thought leadership, GITA in association with other broadband leaders and stakeholders, has concluded that if broadband solutions are to be found, concentrated and authoritative leadership must be available to manage the process.

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 (perhaps 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.

One of the most important aspects of the committee will be the relationships formed with regional, county and local broadband stakeholder organizations. Efforts will consistently be made to coordinate a robust exchange of information to facilitate better decision making at all levels.

With input from local leadership, broadband providers and from evaluation of broadband conditions statewide, a key activity of the state entity will be to produce a strategic broadband plan for the state. The benefits of strategic plan are many, not the least of which will be to avoid a repeat of past mistakes overbuilding in some areas and under-building in others. A plan will give direction and ongoing prioritization to help facilitate an orderly and efficient expansion of broadband in areas where it is most needed and will eliminate replication of effort.

### **Budget Overview**

Budget areas to be considered in the creation of a state entity and planning are the following:

Likely two additional state employees will need to be funded. One as a manager of policy and strategic planning and another to provide clerical support for the state entity. Funding will be necessary for consulting on special technical issues, right-of-way issues, and other legal considerations regarding broadband. Meeting facilitation and travel to remote areas of the state by staff is another budget area. Recently, travel has been reduced significantly through the use

of web conferencing applications. Funding for such applications will likely lower the cost of meeting facilitation in remote areas for both local leaders and state employees.

In-kind matching support will be provided by GITA, including meeting space, server and desktop needs, computer software support, phone systems, meeting materials, copying, scheduling and coordination. GITA will also provide high level coordination and interface with various agencies of the state, and with local leadership in all areas of Arizona.

The *ARIZONA BROADBAND MAPPING & PLANNING INITIATIVE - PLANNING TASKS & BUDGET DETAIL* is provided below

**ARIZONA BROADBAND MAPPING & PLANNING INITIATIVE - PLANNING TASKS & BUDGET DETAIL: 8/14/09**

Arizona Broadband Connect Initiative	Responsibility	Federal Request			In-Kind Contribution
		Contractual	Personnel @ \$90/hr	Indirect Charges (14%)	Data
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 expedient of infrastructure to deficit areas of the State.	GITA	\$50,000	\$45,720	\$6,401	\$20,000
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	\$44,100	\$6,174	
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		\$162,000	\$22,680	\$10,000
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		\$31,500	\$4,410	\$2,000
E. Federal Broadband Stimulus Funding Task Group This Task Group provides leadership, advise and coordination for applicants of Broadband Grants available through upcoming RUS and NTIA NOFA's, and other sources for Broadband Grants.	GITA	\$50,000	\$32,400	\$4,536	
<b>Planning Expenditure Totals by Category</b>		<b>\$140,000</b>	<b>\$315,720</b>	<b>\$44,201</b>	<b>\$32,000</b>
<b>Total Planning Federal Request</b>				<b>\$499,921</b>	
<b>Total Planning In-Kind Contributions</b>					<b>\$32,000</b>
<b>Total Planning Project Cost</b>					<b>\$531,921</b>
<b>Terms</b>	GITA - Government Information Technology Agency				

**BUDGET INFORMATION - Non-Construction Programs**

OMB Approval No. 4040-0006  
Expiration Date 07/30/2010

**SECTION A - BUDGET SUMMARY**

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Arizona Broadband Mapping and Planning Initiative	11.558	\$ [ ]	\$ [ ]	\$ 4,296,425.00	\$ 1,710,610.00	\$ 6,007,035.00
2. [ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. [ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. [ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
<b>5. Totals</b>		\$ [ ]	\$ [ ]	\$ 4,296,425.00	\$ 1,710,610.00	\$ 6,007,035.00

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**SECTION B - BUDGET CATEGORIES**

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	Arizona Broadband Mapping and Planning Initiative				
<b>a. Personnel</b>	\$ 1,173,860.00	\$	\$	\$	\$ 1,173,860.00
<b>b. Fringe Benefits</b>	0.00				
<b>c. Travel</b>	0.00				
<b>d. Equipment</b>	121,000.00				121,000.00
<b>e. Supplies</b>	0.00				
<b>f. Contractual</b>	2,837,450.00				2,837,450.00
<b>g. Construction</b>	0.00				
<b>h. Other</b>	0.00				
<b>i. Total Direct Charges (sum of 6a-6h)</b>	4,132,310.00				\$ 4,132,310.00
<b>j. Indirect Charges</b>	164,215.00				\$ 164,215.00
<b>k. TOTALS (sum of 6i and 6j)</b>	\$ 4,296,525.00	\$	\$	\$	\$ 4,296,525.00
<b>7. Program Income</b>	\$ 0.00	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. Arizona Broadband Mapping and Planning Initiative	\$	\$ 1,710,610.00	\$	\$ 1,710,610.00	
9.					
10.					
11.					
12. TOTAL (sum of lines 8-11)	\$	\$ 1,710,610.00	\$	\$ 1,710,610.00	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 1,843,724.20	\$ 460,931.05	\$ 460,931.05	\$ 460,931.05	\$ 460,931.05
14. Non-Federal	\$ 1,662,636.60	415,659.15	415,659.15	415,659.15	415,659.15
15. TOTAL (sum of lines 13 and 14)	\$ 3,506,360.80	\$ 876,590.20	\$ 876,590.20	\$ 876,590.20	\$ 876,590.20
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. Arizona Broadband Mapping and Planning Initiative	\$ 696,519.97	\$ 696,519.97	\$ 529,879.00	\$ 529,879.00	
17.					
18.					
19.					
20. TOTAL (sum of lines 16 - 19)	\$ 696,519.97	\$ 696,519.97	\$ 529,879.00	\$ 529,879.00	
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges:		22. Indirect Charges:			
23. Remarks:					

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## Budget Narrative

### A. Budget Justification

The following provides a listing of the budget expenditures for the proposed Arizona Broadband Mapping and Planning Initiative. The expenditures under each category are listed along with a justification of the need for the expenditure.

#### 1. Hardware

- 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 will provide the map services and geocoding services for 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

#### 2. Software

- a. 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. 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 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.
- 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

#### 3. Other IS

- a. ArcGIS Online Microsoft Bing Maps for ARCGIS server (NAVTEQ) (data service subscription) – This on-line data service will be utilized to rapidly provide the necessary street network for use in displaying within the Arizona Broadband map.
- b. ESRI Streetmap Premium Mapping/Display and Geocoding Data, NAVTEQ – This street network set will be used as a current base for use

in geocoding address lists acquired from the Broadband Service provider and for geocoding address lists acquired from the Arizona community anchor institutions. This network will be used for data preparation and quality assessment work

- c. Complete updated demographic data for Arizona for ArcGIS desktop 2-5 users – This data is required to provide up to date information regarding demographic characteristic in Arizona. This will help provide analysis of barriers to broadband adoption and current population and household rates for determining broadband adoption rates and other metrics needed for the broadband status tracking.
- d. Complete updated demographic data for Arizona for ArcGIS Server – This data is required to provide up to date information regarding demographic characteristic in Arizona for display and use within the Arizona Broadband Map. This will provide users of the map information on how the status of Broadband deployment in Arizona is related to demographic factors within the state.
- e. Address data base InfoUSA address lists purchases – These are on-line service purchases of address lists for businesses within Arizona. These will be used to help determine locations of health care providers and other community institutions in Arizona. These will supplement available publicly available lists.
- f. American Roamer Wireless coverage data for Arizona , 2-5 desktop users – This data will be used to help analyze and verify data on wireless services in Arizona.
- g. Tele Atlas Telecom Data Wirecenter Premium for Arizona , 2-5 desktop users – This data will be used to help analyze and verify wirecenter locations in Arizona
- h. Complete Media Print Cable Boundaries for Arizona, 2-5 users – This data will be required to assist in the analysis and verification of cable provider services area in Arizona
- i. Contract IS Hoteling and Mmaintenance Services - The Arizona Department of Administration (ADOA) will provide holteling nad maintenance services for significant parts of the technology base of the project. The Map server harware and data base system hardware will be installed and managed at the main ADOA data center. Services to be utilized through ADOA will provide for security, Internet access, OS maintenance, data storage rental, data backup and web server services. ADOA provides these services to Arizona State Agencies under a fee for service contracts.

#### 4. IS Personnel

- a. Broadband Services Provider - A services contract will be issued to procure consultant assistance to assist with a number of key project tasks related to working with and acquiring data from the Broadband service providers in Arizona. These services are critical to the project because other project participants either do not have time or experience to provide

the services. This consultant will work on Non disclosure agreements, information sheets, data format requirement documents and presentation and meet with the broadband service providers to obtain the necessary data for the project. This consultant will also provide assistance in developing a data verification plan and will assist in procuring additional services for data verification and accuracy assessment. This consultant will be well experienced in the telecommunications industry and have significant associations with providers within Arizona.

- b. GIS Services Contractor – A services contract will be issued by the Broadband Services Provider to procure assistance with the large variety of GIS tasks associated with the processing and assessment of the broadband services provider data for the project. The GIS services contract will assist the Broadband services contractor in develop data specification documents and requests and insuring that data obtained from the service providers meets the requirements for the project for use as base material to construct files needed for submission to the NTIA an for developing map layers for the Arizona Broadband Map. The GIS services contractor will also provide assistance in GIS database design and documentation for the project along with design and processing for data quality assessment. The GIS contract will develop The GIS Services contractor will utilize incoming data from broadband services providers to develop and maintain map layers for use in the Arizona Broadband Map. The GIS contract will develop diaries to record processing flows for data streams and automation of the processing to the extent possible and practical for the project.
- c. Arizona State Cartographer's Office - The Arizona State cartographers Office house in the Arizona State Land Department (ASLD) and the ASLD GIS staff will provide GIS services for the processing and analysis of the community anchor institution data and the GIS reference data utilized by the project. This data will include street networks, city boundaries , topographic information, census geography and demographic data which will be utilized in the project. The incoming community anchor institution data will be processed by ASLD to meet the required NTIA data specifications. The GIS staff will also provide project assistance for hardware, software procurement and installation, data and data services procurement and IT support service procure. The staff will also provide data management services for the project . The GIS staff will also design, develop and manage the Arizona Broadband Map end user Internet application and provide end user document on how to utilized the application. Arizona State Land Department staff will also provide technical management for the data and software resources developed by the project. The staff will work closely with the GIS services contract to integrate the broadband services data and map layers into the project data bases and the Arizona Broadband Map.

## **B. In Kind Contributions**

The following provides a listing of the in kind budget contributions for the proposed Arizona Broadband Mapping and Planning Initiative. The contributions under each category are listed along with their function in the project and the States ability to procure the contributions.

### 1. Hardware

- a. Intel dual core processor server – This server will be utilized for creating a development environment for the Arizona Broadband Map application. The server will allow the staff who will develop and maintain the application to utilize a development copy of ArcGIS server software to develop new capabilities for the applications as well as test new software updates and the use of new data sets before posting any changes to the public accessible server.
- b. Arizona State Land Department GIS system hardware – The State Land Department operates an enterprise GIS system for managing the Arizona State Trust lands and for developing and distributing GIS data for public agencies in Arizona. This GIS system utilizes desktop PCs data servers and network storage devices. This hardware will be contributed for use in the project for processing and analyzing incoming data from community anchor institutions in Arizona and for processing and preparing GIS data for use in the project.

### 2. Software

- a. Arizona State Land Department GIS system hardware – The State Land Department operates an enterprise GIS system for managing the Arizona State Trust lands and for developing and distributing GIS data for public agencies in Arizona. This GIS system utilizes an array of ESRI GIS software such as ARC/INFO, spatial analyst, network analyst and other extension to process, analyze and display GIS data for Department and Arizona State uses. This software will be contributed to the project for use in the project for processing and analyzing incoming data from community anchor institutions in Arizona and for processing and preparing GIS data for use in the project.

### 3. Other IS

- a. Arizona State Land Department, GIS data base - The State Land Department operates an enterprise GIS system for managing the Arizona State Trust lands and for developing and distributing GIS data for public agencies in Arizona. This data base contains a wide variety of GIS reference data that will be utilized in the development and display of map layers for the Arizona Broadband Map. Data layers related to census geography, topography, city boundaries, place locations, aerial photography and many other data sets will be contributed for use in the project.

- b. GIS data, other state and local agencies in Arizona – It is expected that many Arizona State and local agencies will contribute GIS and other data for the project, particularly data related the locations of Community anchor institutions. The Arizona Department of Education and Department of Environmental Quality maintain locations and data base on schools throughout Arizona and locations of t
- c. Arizona Telecommunications and Information Council, Arizona Telecom Directory (ATD) database - This data base will be provided for use in the project. The database contains a wide array of information related the services and service locations of telecommunications services providers within Arizona.
- d. Arizona E911 Database and county parcel data bases – The Arizona E911 project funds and works with counties in Arizona to provide assistance for the development and maintenance of E911 systems in the state. The E911 program office works with counties to maintain GIS street centerlines for geocoding and is beginning to develop X,Y coordinate locations for addresses in Arizona to begin implementing the next phase of E911.
- e. Arizona Imagery (NAIP 2007), Arizona State Land Department - This state wide imagery will be used in conjunction with E911 and county parcel data to develop an address point file for the State of Arizona. The imagery and E911 data are very consistent with each other and with census boundary data. This will be the foundation for an operational address data base that will be operational and maintained by the counties and the State. This data set will be extremely valuable for operational address level broadband planning and mapping activities.

#### 4. IS Personnel

- a. Government Technology Information Agency (GITA) – GITA will provide telecommunications and information systems assistance to the project. GITA staff will provide overall management of the project and will provide significant assistance with the development of processes for obtaining data from the broadband services providers and Arizona community anchor institution. GITA staff will also provide requirements and guidance for the development and operations of the Arizona Broadband Map.
- b. Arizona State Cartographer's Office and Arizona State Land Department – Will provide in-kind coordination services with local governments and state agencies throughout Arizona for obtaining GIS and other data for use in this project. Develop of the address points for the state will be conducted with in-kind contribution from the Arizona State Cartographer's office.

### **C. Budget Appendix**

These tables are included in the budget appendix:

- Arizona Broadband Mapping and Planning Initiative: Mapping Budget
- Arizona Broadband Mapping and Planning Initiative: Planning Budget
- Combined Mapping and Planning Total Budget
- Arizona Broadband Mapping and Planning Initiative Annual Budgets (Years 1-5)

	A	B	C	D	E	F	G	H	I
1	<b>ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget</b>								
2	<b>Data Gathering and Processing</b>	<b>Responsibility</b>	<b>Federal Request</b>				<b>In-Kind Contributions</b>		
3	<b>Phases and Tasks</b>	<b>(main/supporting)</b>	<b>Contractual</b>	<b>Equipment</b>	<b>Personnel @ \$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Personnel @ \$90/hr</b>	<b>Data</b>	<b>Equipment</b>
4	<b>1. - PHASE 1 - Development of Initial Broadband Database</b>								
5									
6	<b>1.1 - Resource Requirements Definition and Acquisition Component</b>								
7									
8	1.1.1 - Hire broadband services contractor	GITA/ASLD					\$90		
9	1.1.2 - Hire GIS Services contractor	ASLD / GITA					\$2,250		
10	1.1.3 - Refine map layer requirements and data requirements for layers to produce Arizona Broadband map	GITA / ASLD			\$3,600	\$504			
11	1.1.4 - Refine requirements for supporting data needed for processing broadband services and producing map layers	ASLD and GSC / GITA / BSC	\$2,000		\$3,600	\$504	\$10,800		
12	1.1.5 - Refine hardware, software and services required to process the broadband services and map data	ASLD / GSC / GITA	\$2,000				\$3,600		
13	1.1.6 - Refine hardware and software requirements for storing and managing the broadband database and serving the broadband map	ASLD / GSC / GITA	\$2,000		\$ 1,800.00	\$252	\$1,800		
14	1.1.7.1 - Phase 1 Project Management	GITA				\$0	\$7,200		
15	1.1.7.2 - Phase 1 Project Management	ASLD			\$14,400	\$2,016			
16									
17	<b>1.2 - Data Collection Component</b>								
18									
19	1.2.1 - Develop project information sheets for working with broadband service providers and community anchor institutions (ongoing through Year 1).	BSC / GITA / ASLD			\$2,700	\$378	\$450		
20	1.2.2 - Develop a data request form for working with broadband service providers and community anchor institutions (ongoing through Year 1)	BSC and GSC / ASLD / GITA			\$1,800	\$252	\$1,350		
21	1.2.3 - Develop Non-Disclosure agreement template and inter agency agreement templates for use in broadband and community anchor institution data acquisition (ongoing through Year 1)	BSC / GITA / ASLD			\$1,800	\$252	\$900		

	A	B	C	D	E	F	G	H	I
1	<b>ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget</b>								
2	<b>Data Gathering and Processing</b>	<b>Responsibility</b>	<b>Federal Request</b>				<b>In-Kind Contributions</b>		
3	<b>Phases and Tasks</b>	<b>(main/supporting)</b>	<b>Contractual</b>	<b>Equipment</b>	<b>Personnel @ \$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Personnel @ \$90/hr</b>	<b>Data</b>	<b>Equipment</b>
22	1.2.4 - Contact / meet with private broadband service providers to introduce project and request data (ongoing through Year 1)	BSC			\$5,400	\$756	\$1,350		
23	1.2.5 - Obtain broadband service data for private service providers based on data specification requirements (ongoing through Year 1)	BSC							
24	1.2.6 - Verify broadband data based on data specification requirements	BSC / GSC / GITA / ASLD	\$150,000		\$900		\$900		
25	1.2.7 - Obtain GIS data from Arizona State Land Department and other public sources needed for broadband data processing and for map production	ASLD / GITA						370,000	
26	1.2.8 - Obtain GIS data from private sources needed for broadband data processing and broadband map development	ASLD / GITA	\$40,200						
27	1.2.9 - Meet with public and community anchor institutions to introduce project and request data	GITA / ASLD			\$2,700	\$378	\$2,700		
28	1.2.10 - Obtain broadband service data community anchor institutions (State Agencies, etc) based on data specification requirements	GITA / ASLD			\$10,800	\$1,512	\$7,200	50,000	
29	1.2.11 - Verify community anchor institution data based on data specification requirements	ASLD			\$3,600	\$504	\$900		
30									
31	<b><u>1.3 - Initial Data Processing for Broadband Service and Community Anchor Institution Data Development and Delivery Component</u></b>								
32									
33	1.3.1 - Process private broadband service provider data in accordance with NTIA specifications and for map layer use	GSC / BSC	\$120,000						
34	1.3.2 - Process public broadband service data and community anchor data in accordance with NTIA specifications and for map layer use	ASLD/GSC			\$50,400	\$7,056			
35	1.3.3 - Manage NTIA data sets and GIS database	ASLD/GSC	\$10,000		\$10,800	\$1,512			
36	1.3.4 - Verify processed data meets NTIA requirements for NTIA data delivery	ASLD			\$3,600	\$504			
37	1.3.5 - Verify processed data meets map layer requirements	ASLD			\$3,600	\$504			





	A	B	C	D	E	F	G	H	I
1	<b>ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget</b>								
2	<b>Data Gathering and Processing</b>	<b>Responsibility</b>	<b>Federal Request</b>				<b>In-Kind Contributions</b>		
3	<b>Phases and Tasks</b>	<b>(main/supporting)</b>	<b>Contractual</b>	<b>Equipment</b>	<b>Personnel @ \$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Personnel @ \$90/hr</b>	<b>Data</b>	<b>Equipment</b>
56	<b>2. - PHASE 2 - Data Verification , Delivery of Final Data Set and Production of the Arizona Broadband Map</b>								
57									
58	<b>2.1 - Broadband Data Verification</b>								
59									
60	2.1.1 - Refine the plan to verify accuracy of the broadband data base	BSC / GITA	\$2,000		\$4,000	\$560	\$1,400		
61	2.1.2 - Obtain as required, 3rd party private telecom information providers to assist in the broadband data verification process		\$80,000						
62	2.1.3 - Obtain Arizona Telecom Directory (ATD) data to assist in broadband data verification process	BSC / GITA	\$10,000					30,000	
63	2.1.4- Acquire existing data resources. AZ Imagery, street centerlines, and other state & local data.	ASLD						35,000	
64	2.1.5 - Initiate completion of state wide address point file with the Arizona 911 database for use with broadband assessment and verification	ASLD / DOA E-911 / GITA	\$430,000					1,000,000	
65	2.1.6 - Implement data verification plan and analyze the results to identify data gaps	BSC / GITA	\$100,000		\$1,000	\$140			
66	2.1.7 - Develop a plan to close gaps and adjust data based on results of the data gap analysis	BSC / ASLD	\$5,000		\$7,200	\$1,008			
67									
68	<b>2.2 - Final Data Production and Delivery to NTIA</b>								
69									
70	2.2.1 - Obtain & adjust outstanding data in accordance with the gap analysis of initial data delivery	BSC / GSC / ASLD	\$10,000						
71	2.2.2 - Verify processed data meets NTIA requirements for NTIA data	ASLD / GITA			\$18,000	\$2,520	\$1,800		
72	2.2.4 - Provide NTIA with final adjusted and verified data.	ASLD	\$5,000		\$5,000	\$700			
73									
74	<b>2.3 - Arizona Broadband Map Development Component</b>								
75									
76	2.3.1 - Process private broadband service provider data in accordance with specifications for map layer development to produce map layers	GSC / ASLD	\$50,000		\$7,200	\$1,008			



	A	B	C	D	E	F	G	H	I
1	<b>ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget</b>								
2	<b>Data Gathering and Processing</b>	<b>Responsibility</b>	<b>Federal Request</b>				<b>In-Kind Contributions</b>		
3	<b>Phases and Tasks</b>	<b>(main/supporting)</b>	<b>Contractual</b>	<b>Equipment</b>	<b>Personnel @ \$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Personnel @ \$90/hr</b>	<b>Data</b>	<b>Equipment</b>
96	<b>3. - PHASE 3 - Bi-Annual Maintenance of Broadband Database and Arizona Broadband Map (Years 2-5)</b>								
97									
98	<b>3.1 - Develop and Refine Plans for Data maintenance and Broadband Progress Tracking Component</b>								
99									
100	3.1.1 - Refine plan for updating the broadband data base for project years 2-5	BSC / GSC / ASLD / GITA	\$10,000		\$10,800	\$1,512			
101	3.1.2 - Develop plan for reporting progress on broadband accessibility and adoption and for displaying those factors on Arizona Broadband Map	BSC / GSC / ASLD / GITA	\$10,000		\$10,800	\$1,512			
102									
103	<b>3.2 - Update and Deliver Broadband and Community Anchor Databases</b>								
104									
105	3.2.1 - Obtain semi-annual private broadband data	BSC / ASLD	\$350,000		\$7,200	\$1,008			
106	3.2.2 - Obtain public community anchor institutions data	ASLD			\$64,800	\$9,072			
107	3.2.3 - Process and verify private semi-annual broadband data for NTIA and map layers	GSC / ASLD	\$350,000						
108	3.2.4 - Process and verify public community anchor institutions data				\$202,500	\$28,350			
109	3.2.5 - Provide NTIA with biannual updates of verified broadband and community anchor data.				\$8,640	\$1,210			
110									
111	<b>3.3 - Update the Arizona Broadband Map</b>								
112									
113	3.3.1.1 - Update broadband service and community anchor map layers	ASLD			\$11,500	\$1,610			
114	3.3.1.2 - Support operationalization and maintenance of GIS data map layers including imagery, address and demographic data	ASLD / DOA E911 / GITA	\$450,000		\$10,800	\$1,512	\$26,640		
115	3.3.2 - Update broadband adoption and progress tracking map layers	ASLD			\$28,800	\$4,032			

	A	B	C	D	E	F	G	H	I
1	<b>ARIZONA BROADBAND MAPPING and PLANNING INITIATIVE - Mapping Budget</b>								
2	<b>Data Gathering and Processing</b>	<b>Responsibility</b>	<b>Federal Request</b>				<b>In-Kind Contributions</b>		
3	<b>Phases and Tasks</b>	<b>(main/supporting)</b>	<b>Contractual</b>	<b>Equipment</b>	<b>Personnel @ \$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Personnel @ \$90/hr</b>	<b>Data</b>	<b>Equipment</b>
116	3.3.3 - Develop test and deploy, new software capabilities to Arizona Broadband Map	ASLD			\$21,600	\$3,024			
117									
118	<b>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</b>								
119									
120	3.4.1 - Maintenance for Hardware / and Upgrade Hardware (Once) for broadband service and community anchor institutions	ASLD	\$25,000						
121	3.4.2 - Maintenance for base software for managing the broadband services and community anchor databases and for providing the Arizona Broadband Map	ASLD	\$40,000						
122	3.4.3 - Maintain private supporting data subscriptions for use in processing the broadband and community anchor institutions data and for verification and displaying on the Arizona Broadband Map	GITA / ASLD	\$161,750						
123	3.4.4 - Update supporting publicly available GIS data layers for the Arizona Broadband Map	ASLD							
124	3.4.5 - Maintain Hosting Environment at Arizona Department of Administration Data Center	ASLD / GITA / ADOA	\$182,500						
125	3.4.6 - Phase 3 Project Management	GITA			\$21,600	\$3,024			
126	2.4.7 - Phase 3 Project Management	ASLD			\$74,880	\$10,483			
127	<b>PHASE 3 SUBTOTALS</b>		<b>\$1,579,250</b>	<b>\$0</b>	<b>\$473,920</b>	<b>\$66,349</b>	<b>\$26,640</b>	<b>\$0</b>	<b>\$0</b>
128									
129	<b>Mapping Expenditure Totals by Category</b>		<b>\$2,697,450</b>	<b>\$121,000</b>	<b>\$858,140</b>	<b>\$120,014</b>	<b>\$115,610</b>	<b>\$1,485,000</b>	<b>\$78,000</b>
130	<b>Total Mapping Federal Request</b>					<b>\$3,796,604</b>			
131	<b>Mapping In-Kind Contributions</b>								<b>\$1,678,610</b>
132	<b>Total Mapping Project Cost</b>								<b>\$5,475,214</b>
133	<b>Terms</b>								
134	GITA - Government Information Technology Agency								
135	ALSD - Arizona State Land Department								



	A	B	C	D	E	F
1	<b>ARIZONA BROADBAND MAPPING AND PLANNING INITIATIVE - Planning Budget</b>					
2	<b>Arizona Broadband Connect Initiative</b>	<b>Responsibility</b>	<b>Federal Request</b>			<b>In-Kind Contribution</b>
3			<b>Contractual</b>	<b>Personnel @\$90/hr</b>	<b>Indirect Charges (14%)</b>	<b>Data</b>
4	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	\$50,000	\$45,720	\$6,401	\$20,000
5	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	\$44,100	\$6,174	
6	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		\$162,000	\$22,680	\$10,000
7	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		\$31,500	\$4,410	\$2,000
8	E. Federal Broadband Stimulus Funding Task Group This Task Group provides leadership, advise and coordination for applicants of Broadband Grants available through upcoming RUS and NTIA NOFA's, and other sources for Broadband Grants.	GITA	\$50,000	\$32,400	\$4,536	
9	<b>Planning Expenditure Totals by Category</b>					
10	<b>Total Planning Federal Request</b>		<b>\$140,000</b>	<b>\$315,720</b>	<b>\$44,201</b>	<b>\$32,000</b>
11	<b>Total Planning In-Kind Contributions</b>				<b>\$499,921</b>	
12	<b>Total Planning Project Cost</b>					<b>\$531,921</b>
13	<b>Terms</b>					
14	GITA - Government Information Technology Agency					

**Arizona Broadband Mapping and Planning Initiative:  
Comined Mapping and Planning Total Budgets**

Mapping & Planning	Federal Request			
	Contractual	Equipment	Personnel @\$90/hr	Indirect Charges (14%)
Mapping Expenditure Totals by Category	\$2,697,450	\$121,000	\$858,140	\$120,014
Total Mapping Federal Request				<b>\$3,796,604</b>
Planning Expenditure Totals by Category	\$140,000		\$315,720	\$44,201
Total Planning Federal Request				<b>\$499,921</b>
Total Federal Request by Categories	<b>\$2,837,450</b>	<b>\$121,000</b>	<b>\$1,173,860</b>	<b>\$164,215</b>
<b>Total Federal Request</b>				<b>\$4,296,525</b>
Mapping In-Kind Contributions				<b>\$1,678,610</b>
Planning In-Kind Contribution				<b>\$32,000</b>
<b>Total In-Kind Contributions</b>				<b>\$1,710,610</b>
<b>Percent In-Kind Contributions</b>				<b>39.81%</b>
<b>Total Project Cost</b>				<b>\$6,007,135</b>



**Arizona Broadband Mapping and Planning Initiative: Annual Budgets (Years 1 - 5)**  
**Bases on Federal Fiscal Year (FFY) - October 1 through September 30**

Activity	Task/Phase	Year 1		Year 2		Year 3		Year 4		Year 5	
		Federal Grant	Estimated State In-Kind Match	Federal Grant	Estimated State In-Kind Match	Federal Grant	Estimated State In-Kind Match	Federal Grant	Estimated State In-Kind Match	Federal Grant	Estimated State In-Kind Match
Mapping	Phase 1: Development of Initial Broadband Database	\$721,302	\$517,410								
Mapping	Phase 2: Data Verification, Delivery of Final Data Set and Production of the Arizona Broadband Map	\$855,782	\$1,134,560								
Mapping	Phase 3: Bi annual Maintenance of Broadband Database and Arizona Broadband Map			\$529,879.70	\$6,660.00	\$529,879.00	\$6,660.00	\$529,879.00	\$6,660.00	\$529,879.00	\$6,660.00
Planning	Arizona Broadband Connect Initiative	\$166,640.27	\$10,666.67	\$166,640.27	\$10,666.67	\$166,640.27	\$10,666.67				
<b>Yearly Totals</b>		<b>\$1,843,724.27</b>	<b>\$1,662,636.67</b>	<b>\$696,519.97</b>	<b>\$17,326.67</b>	<b>\$696,519.27</b>	<b>\$17,326.67</b>	<b>\$529,879.00</b>	<b>\$6,660.00</b>	<b>\$529,879.00</b>	<b>\$6,660.00</b>

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

**LOBBYING**

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

**Statement for Loan Guarantees and Loan Insurance**

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

\* NAME OF APPLICANT

Government Information Technology Agency - Arizona

\* AWARD NUMBER

\* PROJECT NAME

Arizona Broadband Mapping and Planning Initiative

Prefix: \* First Name:

Middle Name:

Galen

\* Last Name:

Suffix:

Updike

\* Title: Telecommunications Development Manager

\* SIGNATURE:

\* DATE:

Galen Updike

08/14/2009

# DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB  
0348-0046

<b>1. * Type of Federal Action:</b> <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<b>2. * Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<b>3. * Report Type:</b> <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
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**4. Name and Address of Reporting Entity:**

Prime     SubAwardee

\* Name:

\* Street 1:       Street 2:

\* City:       State:       Zip:

Congressional District, if known:

**5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:**

<b>6. * Federal Department/Agency:</b> <input type="text" value="Department of Commerce"/>	<b>7. * Federal Program Name/Description:</b> <input type="text"/> CFDA Number, if applicable: <input type="text"/>
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<b>8. Federal Action Number, if known:</b> <input type="text"/>	<b>9. Award Amount, if known:</b> \$ <input type="text"/>
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**10. a. Name and Address of Lobbying Registrant:**

Prefix  \* First Name  Middle Name

\* Last Name  Suffix

\* Street 1:       Street 2:

\* City:       State:       Zip:

**b. Individual Performing Services** (including address if different from No. 10a)

Prefix  \* First Name  Middle Name

\* Last Name  Suffix

\* Street 1:       Street 2:

\* City:       State:       Zip:

**11.** Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

\* Signature:

\* Name: Prefix  \* First Name  Middle Name

\* Last Name  Suffix

Title:       Telephone No.:       Date:

## ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.