

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:

08/13/2009

4. Applicant Identifier:

5a. Federal Entity Identifier:

* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State: 08/13/2009

7. State Application Identifier: SAI#UTG090813-020RA

8. APPLICANT INFORMATION:

* a. Legal Name: Utah Public Service Commission

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

87-6000545

* c. Organizational DUNS:

933514523

d. Address:

* Street1: Heber Wells Building, Fourth Floor

Street2: 160 East 300 South

* City: Salt Lake City

County:

* State: UT: Utah

Province:

* Country: USA: UNITED STATES

* Zip / Postal Code: 84111-2305

e. Organizational Unit:

Department Name:

Utah Public Service Commission

Division Name:

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

Prefix:

Ms.

* First Name:

Carol

Middle Name:

* Last Name:

Revelt

Suffix:

Title: Utility Technical Consultant

Organizational Affiliation:

Utah Public Service Commission

* Telephone Number: 801-530-6711

Fax Number: 801-530-6796

* Email: crevelt@utah.gov

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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:

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:**

Utah Broadband Mapping, Analysis, and Planning Project. NTIA Five-Year Grant to the Utah Public Service Commission for Broadband Mapping, Verification, Data Updating, and Planning in Utah.

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 * b. Program/Project

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

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date: * b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="2,925,555.00"/>
* b. Applicant	<input type="text" value="739,000.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="3,664,555.00"/>

* 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

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: Middle Name: * Last Name: Suffix: * Title: * Telephone Number: Fax Number: * Email: * Signature of Authorized Representative: * Date Signed:

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*** 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]

**National Telecommunications and Information Administration
State Broadband Data and Development Grant Program -- Opportunity #0660-ZA29**

Utah Broadband Mapping, Analysis, and Planning Project Program Abstract

Applicant: **Utah Public Service Commission**
60 East 300 South, Fourth Floor
Salt Lake City, Utah 84111
801-530-6713

Date: August 13, 2009 Project Period: October 1, 2010 – September 30, 2014
Funding Request: \$2,925,555
In-Kind Match: \$ 739,000
Total Project Cost: \$3,664,555
Organization type: State Government Agency

Points of Contact:

Carol Revelt	John Harvey	Julie Orchard
Utility Technical Consultant	Telecom Tech. Consultant	Commission Administrator
801-530-6711	801-530-6781	801-530-6716
crevelt@utah.gov	jsharvey@utah.gov	jorchard@utah.gov

Project Objectives:

The State of Utah recognizes the importance of developing and maintaining a map of available broadband services to the state, the federal government, the general public, rural communities, the business community, and education, health-care, service and public safety agencies/institutions. This map is also instrumental for the state in order to conduct comprehensive broadband planning. As such, the objectives of this project are to: 1) Identify and track the adoption and availability of broadband services in Utah by collecting comprehensive and accurate broadband mapping data, which will also be provided to the National Telecommunications Information Administration (NTIA); 2) Develop comprehensive, interactive state broadband maps at the aggregate level; and 3) Develop a planning framework to assess and expand accessibility to broadband infrastructure and services. Of critical importance is maintaining data security throughout the process.

Project Description:

Upon receipt of a broadband mapping and planning grant from NTIA, Utah Public Service Commission, in collaboration with the Utah Department of Technology Services' Automated Geographic Reference Center (AGRC) and Network Planning Group will hire one or more consultants to work with broadband service providers to collect, verify, and update broadband mapping data over a five-year period according to the NTIA's technical requirements. This data will be provided to NTIA for integration into a national broadband map. Using this data, the AGRC will develop an application for interactive broadband maps available through the State's web portal. Funding provided by this grant will enable the State and interested stakeholders to develop a statewide broadband technologies adoption plan to, among other things, identify barriers to the adoption of broadband service and information technology services in unserved and underserved areas of Utah and to promote the adoption of broadband services statewide.



Utah's Broadband Mapping, Analysis, and Planning Project Program Narrative

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 Utah Broadband Mapping, Analysis, and Planning Project Team
Utah Public Service Commission (Designated Eligible Entity)
Utah Department of Technology Services – Automated Geographic Reference Center
Utah Department of Technology Services – Network Planning Department

Date of Application: 8/13/2009

Version: Final

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State of Utah

Gary Herbert.
Governor

Public Service Commission

Ted Boyer
Chairman

Ric Campbell
Commissioner

RON ALLEN
Commissioner

August 13, 2009

Mr. Larry Strickling, Administrator
National Telecommunications and Information Administration
1401 Constitution Ave., N.W.
Washington, DC 20230

RE: NTIA State Broadband Data and Development Grant Program

Dear Mr. Strickling:

Utah recognizes the importance of the availability of broadband technologies to economic development, efficient government, public safety, health, and education and has worked aggressively to pursue a wide range of broadband-related programs. Due to the economic realities and the rural nature of Utah unserved and underserved broadband areas continue to exist. Grants available through the NTIA's State Broadband Data and Development Grant Program (Program) will help to fully identify these areas and enable Utah to develop a planning strategy which addresses continued broadband deployment, technical standards, and education.

The Utah Broadband Mapping, Analysis, and Planning Project (UBMAPP) Team, a collaborative effort of the Utah Public Service Commission and the Department of Technology Services' Automated Geographic Reference Center and Network Planning Division, has been established to ensure Utah achieves the goals of the Program, namely to collect, maintain, verify and update broadband mapping data for NTIA, to develop publically accessible broadband maps for Utah, and to develop a planning framework to assess and expand accessibility to broadband infrastructure and services. The UBMAPP team members possess a variety and depth of expertise and experience which will enable them to meet the challenges posed by the Program.

The UBMAPP looks forward to collaborating with NTIA to meet the objectives of the Program and we are certain this effort will have lasting benefits for the State of Utah. Thank you for this opportunity to apply for grant funding under the Program. If you require additional information regarding this grant application, please do not hesitate to contact me or the technical specialists listed in this application.

Sincerely,

/s/Julie Orchard
Commission Secretary

**National Telecommunications and Information Administration
State Broadband Data and Development Grant Program
Opportunity #0660-ZA29**

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crevelt@utah.gov	jsharvey@utah.gov	jorchard@utah.gov

Project Name: Utah Broadband Mapping, Analysis, and Planning Project (UBMAPP)

EXECUTIVE SUMMARY

Through this application, the Public Service Commission of Utah (PSC) is requesting a federal grant of \$2,925,555 to develop and implement a project to fulfill the broadband mapping and planning objectives of the National Telecommunications and Information Administration's (NTIA) State Broadband Data and Development Grant Program. Associated with this federal grant, the state of Utah will provide an in-kind match of \$739,000 for a total project amount of \$3,664,555. The PSC has been designated as the State of Utah's eligible entity to receive grants under this program.

The goals of the project encompassed by this grant application are threefold: 1) To collect, maintain, verify, and update broadband mapping data, in accordance with the NTIA NOFA definition of broadband based on up/down stream speeds) which will be provided to the NTIA in accordance with the requirements of the Notice of Funding Announcement (NOFA) 0660-ZA29 and associated amendments;¹ 2) to develop publicly accessible state broadband maps and web mapping applications which will provide a spatial distribution of aggregate-level, non-confidential information on broadband access and availability; and 3) to develop a planning framework to assess and expand accessibility to broadband infrastructure and services. The project will be completed through a collaborative effort led by the PSC and the Network Planning Group and the Automated Geographic Reference Center (AGRC) of the Utah

¹ See: Federal Register/Vol.74, No. 129/Wednesday, July 8, 2009/Notices and associated amendments

Department of Technology Services (collectively known as the Project Team). The results of this project will be used to determine economic and planning objectives and, among other things, support economic development, education, and health/safety goals.

According to the U.S. Census Bureau's "Current Population Survey, November 2007" released on the internet in June 2009², in Utah 74.8 percent of individuals live in households with Internet Access. Due to the economic realities and the rural/undeveloped nature of the state outside of the major population centers, it is certain that unserved and underserved broadband areas exist within Utah. To date, however, no map of these areas exists at the state level.

With respect to prioritization for the allocation of broadband grant funds in Utah, since a listing of eligible broadband projects within Utah identified under the NTIA's Broadband Technology Opportunities Program (BTOP) will not be received prior to the submission of this grant application, a prioritization for the allocation of these grant funds for all projects in or affecting Utah, cannot yet be provided. Although the BTOP-qualifying projects are not yet known, criteria for evaluation and prioritization of proposed broadband projects will reflect the BTOP objectives of providing access or providing improved access to broadband service to consumers residing in either unserved and underserved areas in Utah; providing broadband access, education, awareness, training, equipment, and support to community anchor institutions or organizations and agencies serving vulnerable populations, or job-creating strategic facilities located in state- or federally-designated economic development areas; improving access to, and use of broadband service by public safety agencies; and stimulating the demand for broadband, economic growth and job creation.

As with previously-implemented broadband-funding programs in Utah, evaluation criteria will include the financial and technological feasibility of a project; an assessment of the number of people who would be impacted in unserved areas or receive improved service levels in underserved areas in the most efficient and cost-effective manner; an assessment of the benefits of projects related to broadband access, education, training, support of community anchor institution, and public safety; and an evaluation of why a specific project meets the greatest needs of Utah in terms of the objectives of BTOP.

To be effective, broadband mapping efforts need to be accurate, credible, focused, and repeatable and to balance sufficient granularity with visual aesthetics to convey characteristics at the margins of broadband service areas to both professional and lay audiences. As specified in the NOFA, the following enumerated sections address the five broadband mapping and planning review criteria.

1. Data

1.(a) Data Gathering

It is the intent of the Project Team to expeditiously issue a request for proposal (RFP) for collection of data from broadband providers associated with this grant and as described in the NOFA Technical Appendix for State Broadband Data and Development Grant Program (NOFA Technical Appendix) as issued in the Federal Register Notices, July 8, 2009 and revisions as

² See: <http://www.census.gov/population/www/socdemo/computer/2007.html> , Table 3

noted in the Notice of Funds Availability clarification, RIN 0660-ZA29. The Project Team will actively develop the RFP during the grant review process enabling it to be released as early as possible should grant funding be made available to Utah. One or more outside consultants/contractors (i.e., different consultants might be retained to obtain wire-based and wireless data). Information on community anchor institution location and broadband availability/issues will be collected by AGRC. While the PSC does not regulate the entities from which data will be collected, the data will be collected under the authority implied by the Governor's designation, by the requirements of the NOFA itself, and any future directives and clarifications issued by NTIA.

Requirements for the selected contractor (note: multiple contractors may be hired for this project, hereafter referred to as "contractor") under this RFP will include:

- **Identify Providers** – The contractor will be responsible for identifying the broadband providers offering services in Utah and delivering a broadband provider master contact list.
- **Solicit Provider Participation** - It will be the responsibility of the selected contractor to survey the broadband providers to educate and solicit their participation in providing the information required to meet the objectives of the NTIA. The education will include, at a minimum, what data is required, how the data will be used and how it will be protected.
- **Non-disclosure Agreements** - It will be the responsibility of the contractor to develop, finalize, and execute Non-Disclosure Agreement (NDA) based on the definition of confidential information in the Federal Notice and in compliance with Utah Code 63-2. Government Records Access Management Act (GRAMA), with each of the broadband providers. The PSC and its contractors will treat the data as protected through the acquisition and analysis process of the project. The contractor will make a clear delineation of public and protected data records to maximize provider participation while fully meeting NTIA specifications & directives.
- **Acquisition and Delivery of Data** – The contractor will collect the data as specified in the NOFA Technical Appendix and applicable revisions/updates. Data will be delivered to the AGRC (using the State's secure data system), in the format specified or in an alternative format that has been agreed to in advance. A delivery schedule for the data will be proposed by the contractor and must be approved by the Project Team. The contractor will also include periodic summary reporting requirements in the delivery schedule. The data acquisition request will include data required to meet the intent of this proposal and includes the following:

Wired Broadband

- End user address data
- Upstream/downstream speeds
- Type of broadband technology
- Last-mile connection by provider
- Middle-mile and Internet backhaul by provider

Wireless Broadband

- Geographic area served
- Spectrum used
- Upstream/downstream speeds

Wired and Wireless Broadband

- Average revenue per user or by service/franchise area as noted in the NOFA clarification of August 7, 2009.

The contractor will provide the broadband provider submission instructions and clearly communicate the terms of the NDA and provide a statement of protection of the data. The submission standard, schema and schedule will ideally initially meet the requirements of NTIA as specified in the NOFA Technical Appendix. However, the contractor will have a strategy to address problematic data situations; including, non-participation by providers, unavailability of data in specified format, and incomplete data. The Project Team will negotiate with the contractor on reasonable workable alternatives, and, where necessary, the Project Team will first communicate with the NTIA on the issues encountered for possible allowable alternative submission provisions and to submit deliverables under allowable alternatives.

Contractor use and disclosure: The data will be reviewed by the contractor for completeness and format. Data will be delivered to the AGRC, the agents of the PSC, for analysis. Data will be treated as protected through this process and all data related holdings will be destroyed after receipt from the AGRC of notice of conformance/acceptance.

State level use and disclosure: Data received from the contractor, unless otherwise specifically designated, will be treated as protected under Utah's Government Records Access & Management Act (GRAMA) which provides specific protections for "records the disclosure of which could cause commercial injury to, or confer a competitive advantage upon a potential or actual competitor of, a commercial project entity (UCA-63-2-304(4)). All data received from the contractor will be maintained in a secure environment maintained by the Department of Technology Services (DTS). The raw data will only be used for analysis of broadband service relating to the NOFA defined project deliverables. The data will be aggregated and generalized to provide the NTIA with the required data as detailed in the NOFA Technical Appendix and revised in the clarification of August 7, 2009.

All confidential information as defined by the NTIA will be protected throughout this process. The AGRC will aggregate and generalize the information to a level that protects and does not reveal confidential information. The generalized information will be used to provide the public with information that could be queried to determine the availability of broadband services in an area.

Facilities-based Service Areas and Service Locations

The contractor will be tasked with facilitating provider data submissions that describe their facilities-based broadband service areas to the level of detail necessary to meet fine-grained national broadband mapping requirements. The most credible sources of broadband availability and accessibility are grounded in current infrastructure and current usage patterns. As physical infrastructure datasets pose the most confidentiality concerns among the providers, Utah proposes to concentrate on the location, service-type, and speed tier of current end-users.

The Project Team will work to develop a tiered set of data submission guidelines and options rooted in the technical standards in the NOFA Technical Appendix for broadband mapping, and the anticipated verification and mapping processes. The contractor will encourage the providers

to submit the most granular data that is within their technical capabilities. The most preferable submission will be address-specific records explicitly representing the provider's ability to serve current and potential customers. Providers will be given the option of submitting these end-user records in the parsed field format specified in the NOFA Technical Appendix or in a concatenated street address format (that will be parsed into standardized components during the mapping process).

Addressing components within the submission must conform to the U.S. Postal Service addressing standards for street delivery mail as specified in U.S. Publication 28 "Postal Addressing Standards," dated July 2008.³ In some rural areas of Utah, providers may be using a provider-defined addressing system for end-users that reside in areas that were not formally addressed by local authorities when the service account was initially created. In these areas, AGRC will work through the contractor to deliver point or centerline address data of these areas to enable the provider to correct their address records at a future date to be in agreement with the formally-adopted local addressing system.

Providers will be allowed to opt out of address-level submission for areas of Utah that are contained by 2000 Census block geographic units that are less than 2.0 square miles. In Utah 93% of the total 74,404 census blocks are less than 2 square miles. For these areas, providers will be allowed, as an alternative, to submit service type and speed tier aggregated to census block geometry if and only if the broadband service type and speed is available to 95% of potential end-user locations within the block area. This will make the block units submitted by providers analogous to the wireless service area submission definitions of the NOFA Technical Appendix and will permit the providers to concentrate their data submission efforts on rural areas of Utah that are more likely to have broadband service deficiencies.

A data standard will be developed to include the Census's 16 digit unique block unit identifier, technology of transmission, and maximum available speed. In choosing this option providers will be required to agree to adopting the 2010 census block units for analysis and reporting within 6 months of their becoming available on the Utah State Geographic Information Database (SGID) data download website. In addition, providers will be asked to agree that, in cases where the broadband mapping project's verification or mapping analysis casts doubt on the validity of block-level submissions, further information (end-user addresses, physical infrastructure, etc) will be provided to substantiate the operational status, type, and speed for these areas. Providers will be asked to provide a point of contact to resolve such issues as they arise.

Wireless-based Service Areas

Utah will task the contractor selected through its RFP process with the collection of wireless service area data from the wireless broadband providers. The contractor will be required to develop a data standard that complies with the NOFA Technical Appendix . The methodology used to generate these service areas will need to factor in terrain (at a resolution of 5 - 30 meters, for which data is currently available statewide) and other locally-relevant signal propagation characteristics to meet the 95% service availability within the designated service area.

³ See <http://pe.usps.gov/cpim/ftp/pubs/Pub28/pub28.pdf>

Community Anchor Institutions

AGRC has significant existing data resources that catalog community anchor institutions and their locations throughout Utah. To illustrate this, the SGID currently contains the geographic location and extensive descriptive information (contact address, email, phone, & fax; administrator/principal; enrollment, grades, etc) for each Utah K-12 public, charter, and private school. This data is developed annually by AGRC in partnership with the State Office of Education.

AGRC has partnered with other agencies and associations to publish similar datasets for other community anchor institutions and proposes to renew, extend, and build partnerships to create a complete, robust representation of community anchor institutions. The following is a list of partners that will be approached by AGRC to build and sustain the geospatial datasets representing these critical broadband end-users:

Partner	Geospatial Data Content	Comments
State Office of Education	Public, private, and charter K-12 and alternative schools	SGID.Location.Schools GIS dataset, to be updated annually
Utah Education Network	Post secondary institutions, branch campuses, remote learning sites, & extension offices	UEN provides Internet and network connectivity to every public school and college and university through the UEN wide area network; manages a statewide video conferencing system; hosts enterprise-level software applications for our public and higher education partners; offers instructional programming through KUEN, a 24/7 television station; supports a growing range of rich educational resources at UEN's Web site, www.uen.org ; and supports the technology professional development needs of Utah teachers.
Private Colleges	Regionally accredited private colleges	
Utah 911 Committee	Public safety answering points (PSAPs) and dispatch centers	AGRC is actively involved with this committee on a monthly basis
Tribal Centers	Tribal government offices, community centers, and chapter houses	AGRC has experience working with geospatial data projects with the Ute, Navajo, and Goshute tribes.
Utah Association of Counties	County government offices, services provision location and maintenance facilities.	All 29 of Utah counties have GIS technology and experience. AGRC has

Partner	Geospatial Data Content	Comments
		worked to build relationships with county government over the course of several large data acquisition projects the last 20 years
Utah League of Cities and Towns	City government offices and locations of significant service delivery	Utah has over 250 incorporated cities
Utah Association of Special Districts	Office and significant facility/infrastructure locations for special service district (sewer, culinary water, irrigation, sanitation, etc) facilities.	The UASD exists to promote the proper and efficient operation of all special service districts, has permanent staff and holds an annual convention each fall.
Utah Hospital and Health Systems Association	Hospitals, clinics, offices, and medical informatics data centers.	UHA currently provides a variety of member services to 47 acute and specialty hospitals, 10 health systems or management companies, and 27 affiliated professional societies involved in providing health care services to the citizens of Utah and neighboring states.
Utah Division of Workforce Services and Utah Division of Human Services	Significant state, regional, and local social service delivery locations	Employment, Welfare, Mental Health, Aging, Etc.
Governor's Office of Planning and Budget	Voting districts and polling locations	GOPB administers Utah's implementation of the Help America Vote Act (HAVA)

The location and basic descriptive information for community anchor institutions described above will be made publicly available through the SGID as individual geographic datasets. AGRC will work through the partners listed above to survey their respective constituents, membership, and in-house data resources to fulfill the broadband reporting standards for community anchor institutions as outlined in NOFA Technical Appendix. The required elements include broadband service availability, transmission technology, and up/down stream speeds. Additionally, the survey effort will seek to have partners identify perceived general and location-specific broadband access and availability issues.

1.(b) Accuracy and Verification

To be successful, a statewide mapping of facilities-based broadband service areas must have a solid geospatial representation of addressed locations as a foundational data resource. Currently Utah has many excellent geospatial datasets related to addressing, yet there is no definitive collection of situs addresses and their location for the entire State. A statewide situs address layer would represent every address, the geographic coordinates of its point location, and the type of facility present (residential, commercial, industrial, mixed) in Utah.

Utah, through AGRC, proposes to build a statewide situs address dataset to support the broadband mapping project. This effort would not be done from scratch but, rather, through an efficient assemblage of stakeholders, existing data resources, and strategic, business-level planning. Situs address stakeholders include cities, counties, state government, and the emergency dispatch centers among others. AGRC will organize a working group to examine existing resources and develop an implementation plan.

Leveraging Existing Data

At a state-level existing resources to be brought to this effort include: a statewide street centerline GIS dataset with address range information (with a current address match rate estimated at ~80-85%); a statewide collection of parcel data (with address attributes and parcel type) mandated in State statute and developed in partnership with county assessor and recorders' offices; statewide address databases from State Tax Commission (vehicle registration addresses and the Mobile Telecommunications Sourcing Act (MTSA) sales tax address ranges), the Governor's Office of Planning and Budget (voter registration), and the Department of Commerce (business registration). Taken independently, each of these represents an important part of the overall puzzle. Putting the pieces together into a situs address dataset will produce a much more valuable resource for address location and will help to improve the individual datasets themselves, making them more functional in their respective business application areas.

The keys to assembling the statewide situs address dataset will be three-fold. The first key is to set a data standard including a minimum allowable spatial accuracy. The second is to collect all known address resources including situs address points that have been already created at the local level. Several smaller suburban cities and, interestingly, several of the most rural counties have already undertaken this step, some with technical assistance from AGRC). The third is to match all known addresses to automate the location of as many addresses as possible within the spatial accuracy standard. AGRC will work with counties to evaluate and locate all unmatched addresses to both produce new address points, and, concurrently, improve their street centerline-based address range datasets. AGRC will contract with counties and make available broadband mapping grant funding to undertake this data improvement process, develop an update process to transfer improvements into the statewide datasets, and agree to maintain the update process in subsequent years. Any funding directed to counties will be contingent on performance requirements consistent with the goals of the project.

Addresses as a Key Link to Verification of Service Availability Data

Situs addresses are critical to the success of the broadband mapping effort in Utah for several reasons. First, this dataset would enable an explicit match between provider end-user addresses and the geographic coordinate associated with that location. Having a geographic coordinate expression for an address will allow GIS software to be utilized to aggregate, analyze, and visualize the raw broadband data and derive data and map products, such as underserved and unserved areas, whose efficient delineation and update can only be reasonably accomplished with modern GIS-based processes.

Second, a complete situs address layer will allow AGRC to derive all of the addresses that fall within wireless service areas and facilities-based service areas that are submitted as Census block polygons.

Third, situs addresses, taken collectively, represent the goal of broadband availability expansion as outlined by the current federal Administration. If the goal is universal broadband access in Utah and the rest of America, we must be able to discern the locations of residences and other facilities that are not currently within service areas.

Beyond playing a critical role in the mapping of broadband availability, building a statewide situs address dataset will have many collateral benefits to people and enterprises of the state of Utah. Likely beneficiaries include: emergency dispatch operations; voter registration and polling information, location-based government services, meetings, and noticing applications; implementation of streamlined sales taxes; improvements to the MTSA taxing implementation; public and private sector mapping applications relating to economic activity, development, tourism, and general reference, etc.

Areas of Exclusion

One additional resource that will be built to assist both the situs address dataset and the overall broadband mapping effort will be an exclusion area dataset. AGRC will make use of SGID public lands datasets to create a data layer of 'wired broadband not expected. This dataset will be used as a quality control for all end-user addresses and will be modified as need to accommodate ground-truthed addresses found to be legitimate. The exclusion area map dataset will not include public land areas proximal to designated strategic targets of national interest, areas with the potential for a large transient populations (ex. national park/recreation area visitor centers), and critical infrastructure. In the broadband mapping analyses, this layer will allow for more precise unserved and underserved area results as it will help to improve the spatial representation of populations in rural census demographic areas.

Complete Address GIS Dataset

Armed with a complete, updated, an accurate situs address GIS dataset, Utah will be able to utilize standard GIS toolsets to perform verification and analysis of broadband data compiled from the broadband providers by the contractor. Since the situs address dataset will be publicly available, state-owned asset, AGRC can share this data resource with the providers for their own uses and also for confidential communication of verification issues and results. This would not be possible with most licensed commercial address datasets.

In addition the situs address dataset could be used as a foundational layer for several interactive web-mapping resources that will be used in conjunction with the assessment and verification efforts. AGRC owns a sophisticated web and map services backbone built on the ArcGIS Server technology and will employ this to develop scalable applications that seek public participation in the gathering of both broadband availability and address data. Utah will incorporate these 'crowd-sourced' data gathering applications, general project information, and publicly available project results into a broadband sub-section of the State's website (<http://www.utah.gov>), accessible from the site's front page.

Web-mapping Applications

Utah plans three specific web-mapping applications to assist with data-gathering and verification. Through the use of these applications the Project Team hopes to gather information to support and substantiate broadband mapping data submitted by the providers. These applications seek to build credible verification resources from local users, especially in likely underserved, rural areas. In all cases, participation will be optional but encouraged, the

