

Final Report

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Agreement Number: NSDI CAP G11AC20049
Project title: Maximizing Accessibility of the Utah Geospatial Infrastructure (UGI)

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Executive Summary

The opportunity to develop project plans and execute against a previous CAP Grant project that established a strategic plan for Utah's SSDI has helped the Utah Automated Geographic Reference Center initiate a transition towards better data governance and increased accessibility of its valuable data repository.

During the course of this grant, AGRC launched three initiatives to support its strategic objectives:

- A revamped website (gis.utah.gov) that focuses on ease of use and accessibility to the most popular data and services in the state's SSDI - the Statewide Geographic Information Database (complete).
- Refine governance of key datasets statewide by seeking formal support from key government associations (30% complete).
- Launch an initiative to maintain a master address file statewide (50% complete).

Rapidly changing online technologies and the increased expectations of end users for accessing data are two key drivers. More is being asked of geographic data by more users. Data resources must be made more accessible, more accurate, and more authoritative.

Project Narrative

The Utah Automated Geographic Reference Center (AGRC) submitted an application to develop an implementation plan to *Maximize Accessibility of the Utah Geospatial Infrastructure*. Established in 1984, AGRC was an early forerunner among states in developing a robust data sharing model that has helped establish a long-standing legacy of data openness and collaboration among GIS practitioners in the state.

A core function of AGRC is to maintain the state's spatial data infrastructure (SSDI) - which has been formally recognized in state statute as the State Geographic Information Database or SGID since 1991. The SGID is a centralized resource of over 400 individual datasets compiled from geospatial data resources across local, state, and federal government agencies, as well as private entities. In 2001, AGRC revamped the SGID to make it more accessible and enhance the formal sharing of geospatial data across agency boundaries through a multi-agency, multi-level of government MOU.

At that time, the Utah Framework Implementation Plan established. This plan identified and enabled theme-based data stewards for the first time at a centralized source. This plan helped to inform and guide the geospatial community as well as decision makers and elected officials.

Since 2001, the continued evolution of web-based and wireless technologies has created a need for better access to SSDIs by location-aware data and applications. The maturation of mobile technologies has only fueled that demand further. Not only has the demand increased for quality geospatial data, but the volume and diversity of applications that leverage the use of this data has also been increasing. To illustrate this impact on AGRC as an organization, the last three new hires have all been application developers with little previous geography of GIS-specific background.

Increase stakeholder support to refine data governance

Early in the process, it was clear that a simple business plan compiled by AGRC dictating the prioritized datasets and map services of AGRC would not adequately justify our efforts, nor would it successfully make a compelling case to AGRC's business users.

As a result we held a series of meetings with key customer groups: state agencies, local governments, federal agencies, and private business. From those meetings, we invited champions and key stakeholders to represent their respective constituency on the Standards Committee of the Utah Geographic Information Council (UGIC) - the state's GIS professional association. The Committee was identified as a primary vehicle to ensure broad engagement.

Early in the project, AGRC identified two major state agencies as critical GIS data consumers that should greatly influence the Center's implementation plan: Transportation (UDOT), and Natural Resources (DNR). While many other state agencies have a significant level of GIS integrated into portions of their operations, these two agencies have a long history of geospatial usage, understanding of the state's current Geospatial Infrastructure, and recently enhanced commitments to implementing GIS across their enterprises.

Engagement started with only GIS professionals in these two agencies. However, with their help, agency executives are now engaging and offering business-driven guidance

on the necessary data and services GIS assets can provide in support of the agencies' objectives. This increased attention of state agency executives was an unexpected outcome of the CAP funding project and required additional time, slightly delaying the planned timeline of the original plan.

Within the Utah Department of Transportation, for example, program directors have allocated resources to support the establishment of an agency-wide GIS function centrally managing their GIS activities and the provision of GIS-based web and map services across of the largest functions in state government - transportation.

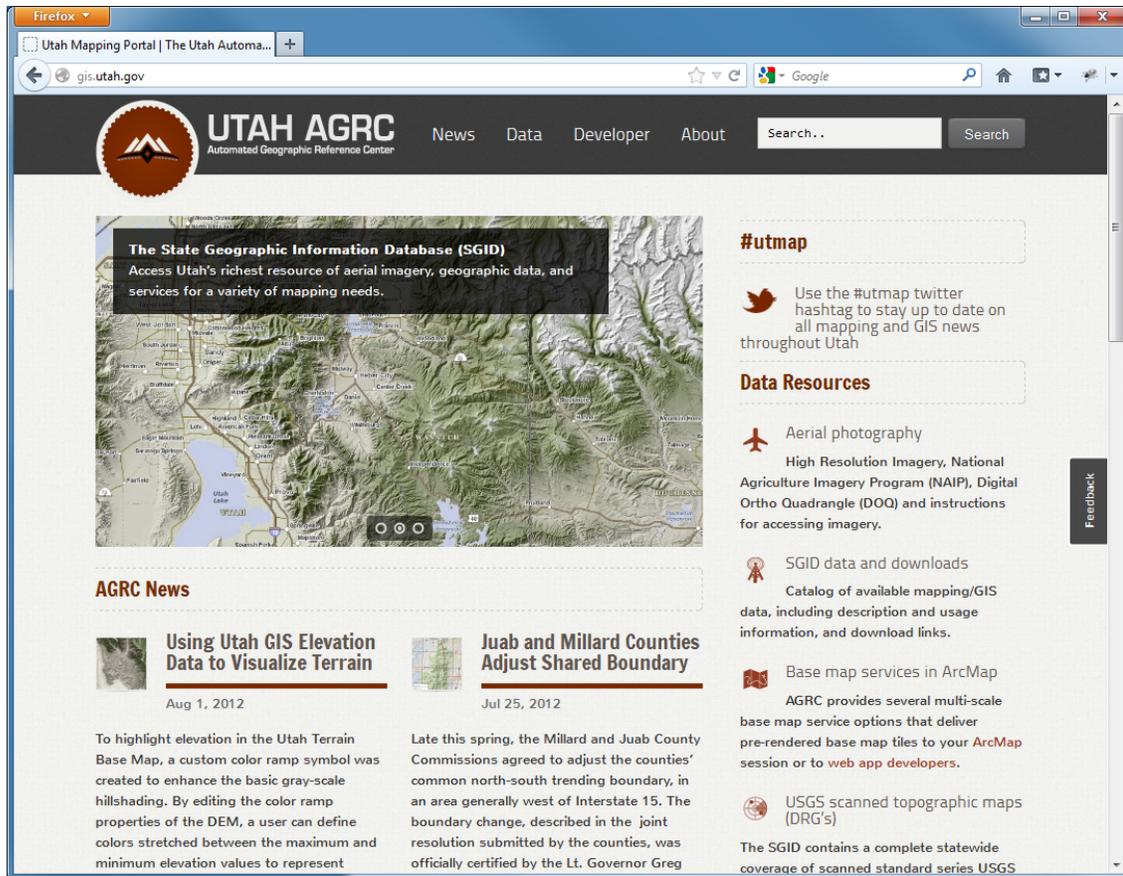
Within the Utah Department of Natural Resources, executives have also identified the need for a central department-wide steering committee to coordinate GIS activities and software assets (e.g. a 5 year commitment to enterprise software licensing) to help control costs, benefit its established lines of business, and improve data sharing across various divisions.

Initiating meetings made possible by CAP grant funding (with tightening budgets adding extra pressure), AGRC has been able to engage agency executives that have historically resisted or ignored calls for better coordination and data sharing.

New SSDI Portal

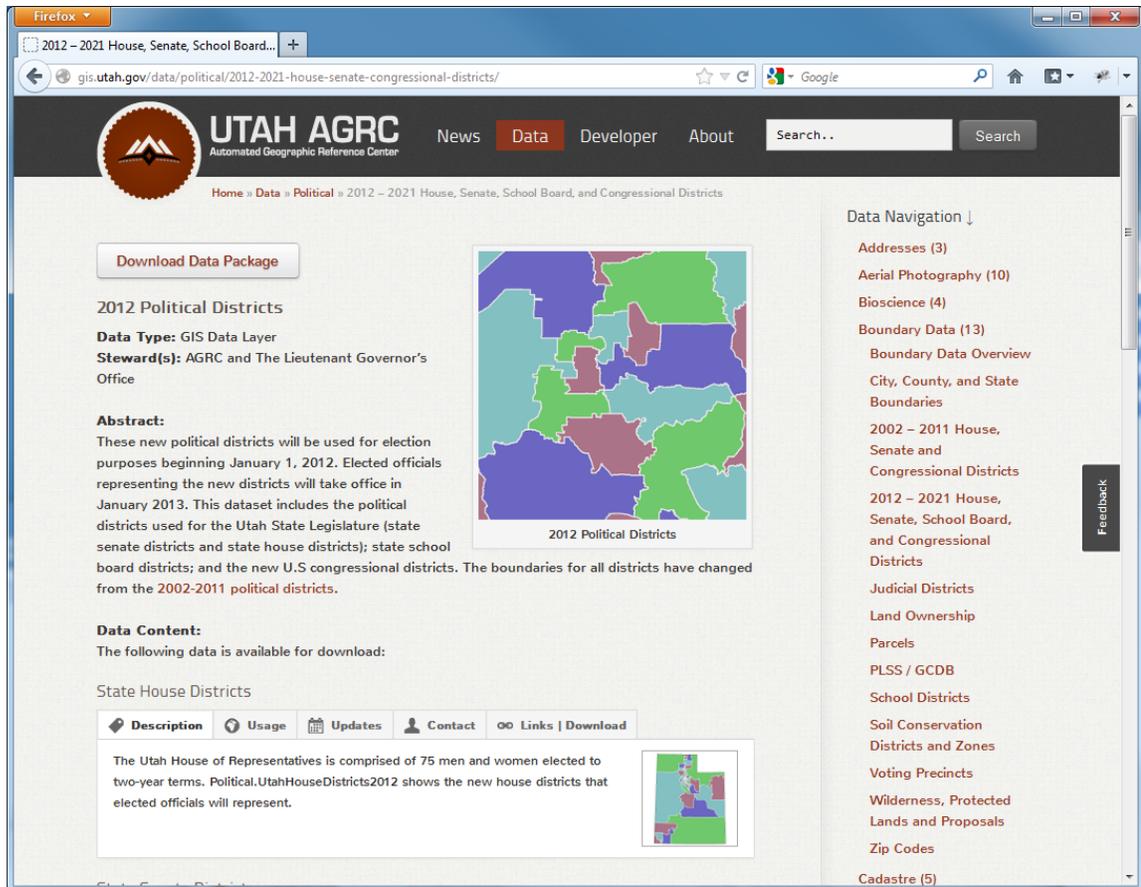
AGRC launched an internal initiative to plan and implement a website refresh to maximize accessibility and discoverability of the SGID data with an emphasis on incorporating distributed data, data services, and simple easily updated *meta information*, not just formal metadata.

The main premise behind the new website is that consumers of GIS and other mapping information expect to be able to discover mapping information the same way that they find other information. Namely, carefully selected keywords are entered into a Google, Bing, Yahoo, or other 'big search' text boxes. Then the user peruses the top 5-10 ranked search results, decides to investigate links, or further refine the search keywords.



The new site does not emphasize a built-in search or catalog application to discover map data and services. Instead, it is designed almost exclusively to work with 'big search.' A strong emphasis has been placed on organizing information regarding data, services, and events into individual pages, each with its own URL. As domain names (ex. gis.utah.gov) are a preeminent modern form of branding, search engines heavily weight these in their ranking algorithms. Consumers wisely employ a similar strategy to form their search keywords. Outcomes of the new approach will be favorably judged, if after an initial period of time, Utah GIS and mapping data can be found the same way other information is found. A Google search of "utah.gov gis road data" returning a top 5 ranked link to a page describing the statewide roads-related data, basic meta information, and links to data, services, and related maps and applications, means the new approach is on the right track.

Another component of the new site strategy is including, on each data and service page, the key meta information describing each dataset. This improves the accessibility and usability of data while aiding overall discoverability by search engines. Doing this also helps AGRC to navigate the current diverging approaches to metadata taken by GIS user communities, IT professionals, and software providers. With each geospatial resource having its own dedicated web page, perhaps the only critical information in the existing metadata standards are the currency and publishing dates and the "Online Linkage"? Time will tell.



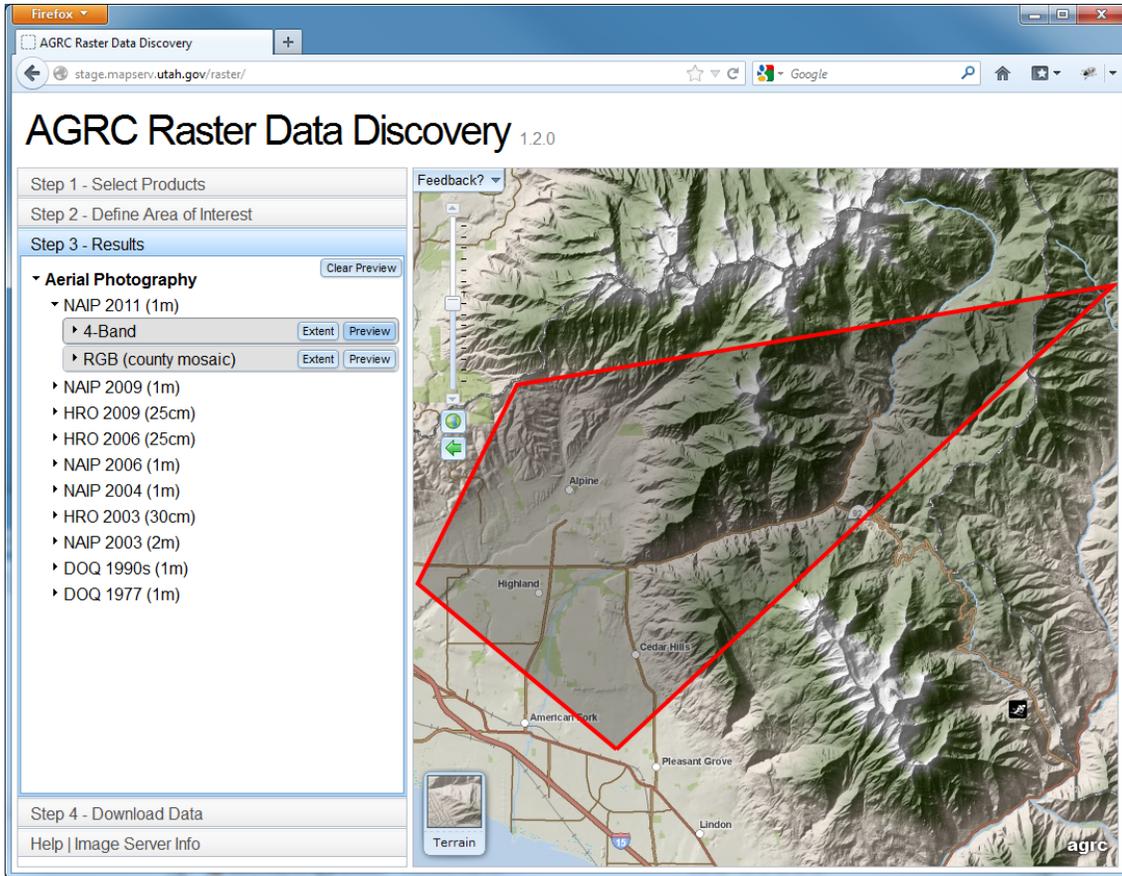
Other significant changes are noteworthy. When the previous iteration "Utah GIS Portal" website was released in December of 2007, many collaborative-oriented functions were included. However, more compelling platforms for sharing professional association, content comments, forums, code, etc. quickly emerged and gained adoption by IT professionals shortly thereafter. For this reason, the new site is much simpler but does have the ability to embed the capabilities of multiple social media channels such as twitter, linkedin, github, flicker, etc.

The site consists of two principal content management system components: 1) resource pages and 2) blog-style news items. AGRC is also chose to embed a moderated twitter feed (#utmap) and listserv subscription capability into the website. In the future, the site will evaluate incorporating additional maturing SaaS channels as they gain adoption, such as ArcGIS Online. In the meantime, the core site will present simple straight-forward content that is as user friendly and discoverable as possible.

It is hoped that using a more distributed approach to architecting access and use of geospatial resources should make the new site more flexible and powerful. It is also expected that data and service hosting will become more distributed in nature with UDOT, DNR and other state agencies expecting to, or already pushing out their own data and services. AGRC will continue to provide hosting and provisioning services to those state and local agencies that are not positioned to become direct access points due to resource or other constraints. AGRC will also coordinate with those developing

their own internal capability to ensure that these resources are cataloged with their own URLs in the SGID portion of the website.

A map-based viewer and index of the state's raster resource has also been implemented to allow easy access based on a user-defined geography query via web-based interactive viewer. Since raster datasets tend to be large and can cover custom extents, this application complements the product specific raster data pages (ex: <http://gis.utah.gov/data/aerial-photography/2011-naip-1-meter-orthophotography/>). These new web services have been a key focus of this initiative as it is a primary means of maximizing access to the state's SSDI.



Overall the importance for the State of Utah is that geospatial resources including data, services, infrastructure, and expertise continue to expand into a more capable, more current, more efficient enterprise-wide, highly connected network, better able to meet agency business needs and informing decision-makers.

Statewide Master Address List

This initiative is to assist the state in compiling and updating a statewide *Master Address List* (MAL) directly from authoritative county sources. A master address list is a list of recognized addresses that are assigned a geographic location (latitude/longitude coordinates). The statewide master address list will be used by multiple state services including:

- Regional 911 dispatch and Division of Emergency Management
- Centrally assessed property tax assessment
- Mobile phone sale tax
- Voter information
- Business registration

It is not uncommon for county offices to receive multiple requests from state agencies for related address information. It is also not unheard of for address data to be underutilized locally. This initiative will set an example of how to more efficiently exchange data from stewards to agencies that need this for service delivery at both the state and local level.

AGRC has worked with counties to identify an authorizing official to help coordinate this initiative with each county, and encouraged county commissions/councils to discuss it as a body. An endorsement of the county legislative body has helped formalize the initiative among county administrative offices (Recorder, Surveyor, Assessor, Clerk, etc.).

AGRC has both coordinated and aligned with standards as published or as emerging from NSGIC, NENA, and FGDC relating to address points and addressing.

Summary of project activities

- April 2011 - AGRC and UGIC jointly convened a working group which will identify key action items for the business plan
- April 2011 - Invited a broader participation from the GIS Community at annual UGIC conference.
- June-September 2011 - Several stakeholder meetings held to define objectives, develop project plans, and collect feedback. Representation from county, state, federal agencies, and private sector.
- October 2011 - Define specific right-sized initiatives to maximize access to Utah's SSDI:
 - Master Address List Initiative
 - New website architecture to ensure distributed data and services are more accurate, accessible, and authoritative.
 - Seek broader support outside of GIS community to support improved data governance
- November 2011 - Received formal endorsement from Utah Association of Counties for UGIC Standards Committee to assist counties in the development of best practices and processes for data standards.
- Winter 2012 - Launched UGIC Standards Subcommittees specific to road centerlines, address points, and parcels.
- April 2012 - Presented Master Address List Program to county Recorders, Clerks, Assessors, Commissioners, and Surveyors
- May 2012 - Launched new geospatial web portal (<http://gis.utah.gov>).
- July 2012 - Launched new web application for searching index of raster-based geospatial resources (<http://stage.mapserv.utah.gov/raster/>).
- June 2012-August 2012 - Formalized agreements with counties to establish and maintain Master Address Lists.
- August 2012 - Initial discussions to identify required changes to state statute to empower AGRC to provide statewide data services for core data assets: including property parcels, street centerlines, address points, county and municipal boundaries, and aerial imagery.

Key accomplishments to date

- Initiated transition to data-as-a-service model for the SGID.
- Assisted in establishment of UGIC Standards Committee to establish data processes and best practices for county GIS functions. Subcommittees created on 3 core data themes.
- Received formal endorsement of Utah Association of Counties for UGIC Standards Committee
- Launched a new statewide GIS data portal (gis.utah.gov) that focuses on ease of access to key data services, reduces use of technical terminology and “GIS-ease”, and connects data consumer more directly to data owner.
- Launched a new initiative to establish and maintain a statewide Master Address List.
- Secured funding to develop a web-based platform for multi-user editing of core datasets.
- Adopted use of popular social media tools such as RSS, Twitter and Google Docs to inform users of data updates

How inclusive is your effort? What have you done to bring new stakeholder groups or organizations into statewide coordination?

AGRC relied heavily upon key stakeholders, including the following partners:

- Dave Vincent, USGS Geospatial Liaison (dmvincent@usgs.gov, 801-975-3435)
- Don Wood, Chief Information Officer, Wasatch County (dwood@co.wasatch.ut.us, 435-654-3211)
- James Wingate, Director - Call Center & GIS Operations , Blue Stakes of Utah (jamesw@bluestakes.org, 801-208-2111)
- Debra Ames, Recorder, Rich County (dames@richcountyut.org, 435-793-2005)
- State and Institutional Trust Lands Administration, Jessica Kirby (jkirby@utah.gov)
- Utah Department of Transportation, Frank Pisani (fpisani@utah.gov)

Explain how statewide coordination has (or will) change as a result of this project.

By focusing on making general *meta information* easily available on the state’s GIS web portal and refined data governance, data owners have an opportunity to make their data more available, more accurate, and more authoritative. AGRC’s shift from the role of data manager to a cataloging and data oversight service agency is helping to clearly define data ownership, improve access and accountability, and enhance overall transparency.

The UGIC Standards Committee and its subcommittees will likely pass state data standards that will further enable collaboration, aggregation, and, in the mid to long term, possibilities for multi-user and web-based distributed data maintenance of core data themes.

What practices or activities led to success? What practices or activities have not?

AGRC, in consultation with Applied Geographics, chose a path which resulted in a more rapid ROI from the CAP Grant funds and corresponding matching funds by focusing limited resources on right-sized initiatives that support the objectives of the *Business Plan Guidelines* established by the FGDC in 2009:

- **Refine formal governance**

AGRC partnered with the Utah Geographic Information Council (UGIC), the state's 501c3 association of GIS professionals, in establishing a data/process standards committee made up of members of UGIC as well as the Utah Association of Counties (UAC). The committee has developed a process for the adoption of state-level GIS data/process standards. The collaborative approach to developing this model has forged partnerships from existing stakeholder organizations, avoiding the creation of additional committees and governance. Instead, the formalization of these partnerships from existing structures and resources resulted in a defined process that engages stakeholders at the right operational level.

Recommendations from the 2008 Utah Geospatial Infrastructure Strategic Plan (UGI) recommended establishing a more formalized governance over its statewide spatial data infrastructure (SSDI). Before this project, the objective was to establish an executive board to oversee development of standards. However, the inherent challenge with such a board ignored the need for board members to possess the technical skill and interest level to actively participate. AGRC engaged the UGIC Standards Committee, a volunteer committee comprised of GIS professionals, to assume a governing role over data/process standards. The Committee established a formal decision-making process for standards and best practices. Sub-committees have been established to study specific datasets including property parcels, street centerlines, and address points. Final approval of work done by the Standards Committee can be given by the UGIC Board. *See attachment A: UGIC - Standards Process*

The Standards Committee is currently chaired by Don Wood, Chief Information Officer for Wasatch County, and a named partner to the FGDC Business Plan Development project. At Mr. Wood's recommendation, the Committee received the endorsement of the Utah Association of Counties as a resource in assisting counties to also establish GIS standards and best practices. The timing of this endorsement was especially important as the statewide political redistricting process was just commencing; political sensitivity to the redistricting process provided a unique opportunity to integrate GIS into the state's voter registration and information databases. This integration required significant coordination with state and county elections offices - resulting in a voter records becoming geospatially-enabled statewide. GIS integration and analyses helped to identify hundreds of boundary discrepancies not previously identified. It also helped achieve a significantly heightened level of accuracy with regard to voter addresses and new precinct assignments.

- **Define essential UGI applications/process strategy for collaborative/distributed data cataloging, sharing, discovery, and distribution**

The launch of AGRC's new web portal (<http://gis.utah.gov>) is based on a simplified approach that puts general, non-technical information on dedicated web pages with unique, search engine-optimized web pages for each thematic dataset collection. This format allows for one stop data shopping with far fewer barriers presenting themselves to an ever-broadening user base -- even when they are data services or datasets hosted on different state agency infrastructure.

The screenshot shows the UTAH AGRC website interface. At the top, there is a navigation menu with 'News', 'Data', 'Developer', and 'About' links, along with a search bar. Below the navigation, the breadcrumb trail reads 'Home » Data » Transportation Data and Services » Roads and Highway System'. The main content area is titled 'Roads and Highway System' and includes a 'Download Data Package' button. The abstract states: 'This dataset contains GIS mapping data representing the statewide roads centerline dataset for Utah and other road and highway related data such as milepost locations, exit numbers and names, polylineM highway linear referencing system (LRS) routes, and label lines for dynamic rendering of highway shields.' The 'Data Content' section lists feature classes: 'Road Centerlines' and 'Highway Linear Referencing System Routes'. Each section has a 'Description' tab selected, showing detailed information and links for 'Usage', 'Updates', 'Contact', and 'Links | Download'. A 'Data Navigation' sidebar on the right lists various data categories with counts, such as 'Addresses (3)', 'Aerial Photography (10)', 'Bioscience (4)', 'Boundary Data (13)', 'Cadastral (5)', 'Climate and Weather (3)', 'Demographic (3)', 'Economy (3)', 'Elevation and Terrain Data (9)', 'Energy (7)', 'Environment (4)', 'Farming (4)', 'Geoscience (15)', 'Health (6)', 'History (3)', 'Indices (8)', 'Location (7)', 'Planning (7)', 'Political (6)', 'Recreation (7)', 'Society (9)', 'Transportation (5)', 'Transportation Overview', and 'Air'.

- **Define the essential UGI web and map services, stewardship, performance goals, data dependencies, communication/notification strategy and update cycle**

The AGRC web portal clearly defines basic descriptive information, including usage tips and constraints, update lifecycle information, data owner/inquiry contact information, and additional links to traditional metadata and other related web content.

The screenshot shows a dataset page for 'Water Related Land Use'. It features a navigation menu with 'Description', 'Usage', 'Updates', 'Contact', and 'Links | Download' tabs. The 'Description' tab is selected, displaying a text box with the following content: 'Questions regarding this dataset can be directed to Eric Edgley at the Utah Division of Water Resources.'

By leveraging common web analytics, AGRC will have more granular information to understand the demand for specific data and services. In addition, AGRC is leveraging [Twitter](#), [RSS](#), and Google Docs to make relevant meta information related to SSDI data easily accessible and available.

Update of portal information including meta information, is done via a content management system, allowing and inviting a truly distributed maintenance of the clearinghouse site. Several agencies have re-authored content describing their data resources to their own specifications

- **Communicate to decision-makers the value of UGI resources**
The Master Address List Program has a specific focus on engaging elected County Officials, not just the GIS contacts in each county, to create a sustainable, low-overhead data sharing mechanism. This helps ensure formal buy-in across county administrative offices and also breaks down data sharing barriers that may exist among local level

authorities. A sample contract packet outlines the terms of the project. As a result, many counties are formally ratifying their support of this initiative through formal actions such as declarations and ordinances.

AGRC is presently starting conversations with new data partners from the state elections office, utilities and their contract locating services, public safety, and state tax to help craft the needed statutory changes to state law that will help AGRC better govern the core datasets for use across the enterprise. Those datasets include property parcels, address points, county and municipal boundaries, street centerlines, and aerial imagery.

Explain how your project has advanced the NSDI

State agencies are now in the maturing stages of developing their own respective SDI that supports the larger SSDI. This is significant as agencies now feel more empowered to leverage their own spatial data assets to support state agency business objectives. A powerful illustration was in July 2012 when Utah's Department of Transportation was highlighted during the Plenary of the ESRI International User Conference for the centrally managed GIS services across the agency. ([More information here](#)).

Participation and partnership with an SSDI is possibly the foremost factor in determining readiness and willingness for agency and programs' and their data to be included in the broader NSDI effort. In addition, the standards effort and web-based data accessibility outcomes should prove to be compatible with current NSDI threads and possibly ground-breaking, respectively.

How will this project continue into the future and remain viable?

It is critical to keep executives and managers engaged by helping them see the value of their participation and the potential benefits. While GIS practitioners provide vital technical expertise, the influencing power of agency and business executives on elected and other policy makers is important to permanent and sustained change. With that, the development and maintenance of an ongoing funding stream is also critical.

Where do you need assistance? What type of assistance do you need?

In the current environment of limited budget resources across all government entities, ongoing funding poses the greatest challenge for sustainability of these initiatives.

Attachments

- 1) UGIC Standards Committee process overview
- 2) MAL one page handout
- 3) MAL document package

Feedback on Cooperative Agreements Program

What are the CAP Program strengths and weaknesses?

1) The FGDC CAP Grant program is a gathering point for state and local geospatial organization that, with a little funding incentive, creates a national forum on establishing best practices, standards, and coordination.

2) We suggest greater engagement of other federal agencies with state, regional, and local government as the best hope and most efficient means of acquiring current and complete content for many national geospatial framework data themes. FGDC is part of

the Department of the Interior but collaborates across the spectrum of other federal agencies (e.g. US Census and NTIA in Dept. of Commerce). We suggest that the FGDC effort be broadened and further supported to best meet geospatial data and service needs in a variety of areas.

3) Emphasize the importance of gleaning information from other project states. Attendance at NSGIC and similar conferences provide tremendous opportunity to network those relationships.

Where did it make a difference?

While the CAP Grant dollars themselves are very small in comparison to the often ambitious undertakings that they fund. The amount and associated perception of participants and partnering agencies combine to greatly assist in the initiation of key conversations and collaborations that might not otherwise get underway. The CAP grants are catalysts, providing important seeding to much larger efforts.

Was the assistance you received sufficient or effective? Yes, both - for initiating the process and building a sustainable product.

What would you recommend that the FGDC do differently?

Building sustainable processes and change always takes time. We appreciated the interim reporting process because it forced us to check progress against the original proposal. However, another 3-6 months will bear additional achievements. Perhaps a voluntary "Where are they now?" project follow-up 6-12 months after the final project is submitted?

Are there factors that are missing or are there additional needs that should be considered?

No.

Are there program management concerns that need to be addressed, such as the time frame?

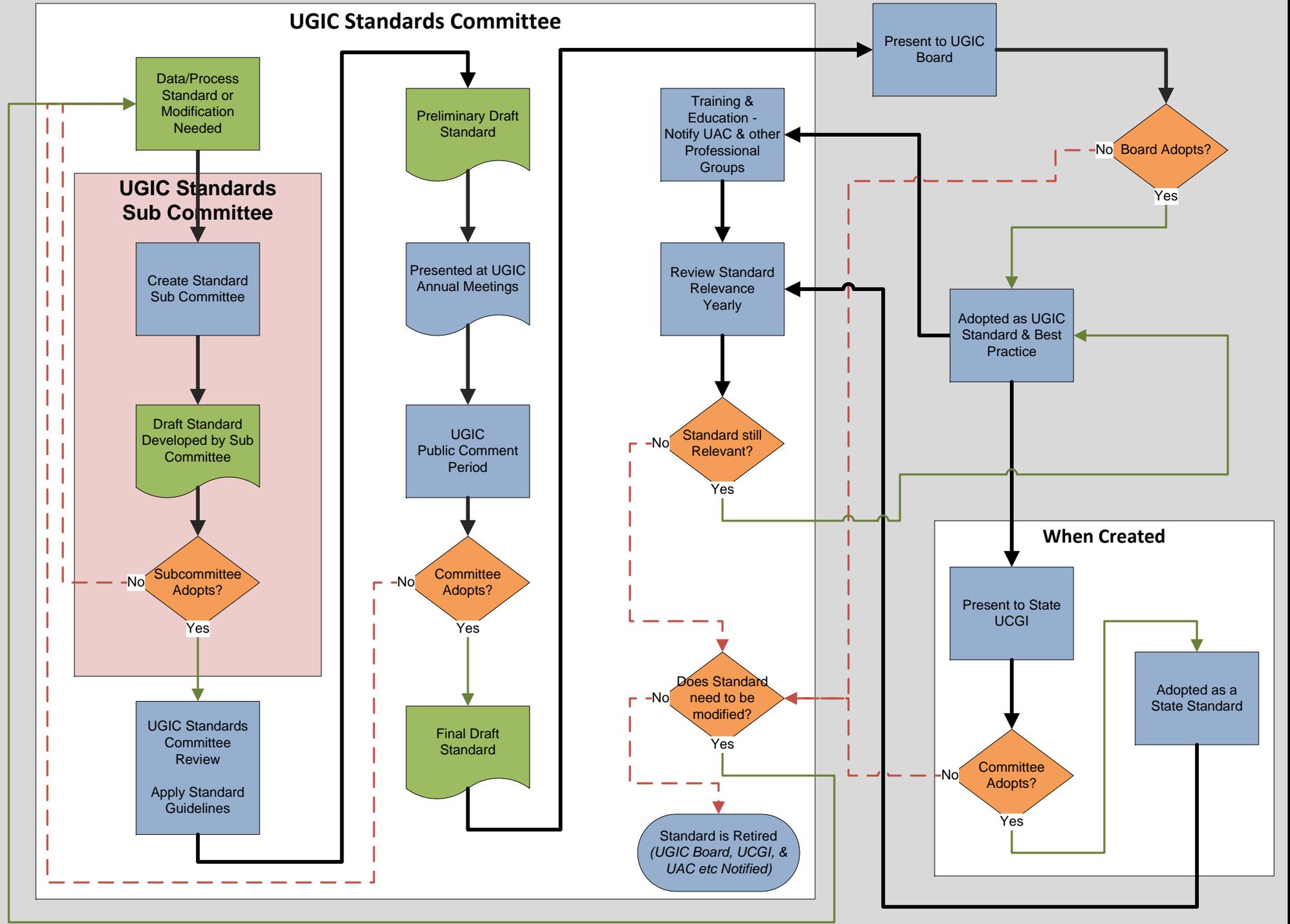
See comments above.

If you were to do the project again, what would you do differently?

At the outset of the project, not only identify key partners as required by the grant application, but outline existing mechanisms and programs that can dovetail into this initiative. In a climate of shrinking budgets, the ability to combine resources using existing programming creates valuable synergy.

UGIC Board

UGIC Standards Committee



Background

- In 2011, the State of Utah Elections Office and AGRC, worked with County Clerks to verify voter addresses in the statewide voter information system (VISTA).
- Part of required changes to adjust to redistricted state and federal political boundaries.
- Resulted in 98% successful match between county and state voter address information.

**County clerks and the state elections office now have highly accurate, verified addresses for the state's voting population.

The Resulting Problem

Other functions in state government (eg. property tax, business registration) and county government (eg. Recorders, Assessors, Surveyors, Sheriffs) who could benefit from this verified address information may not have access to it.

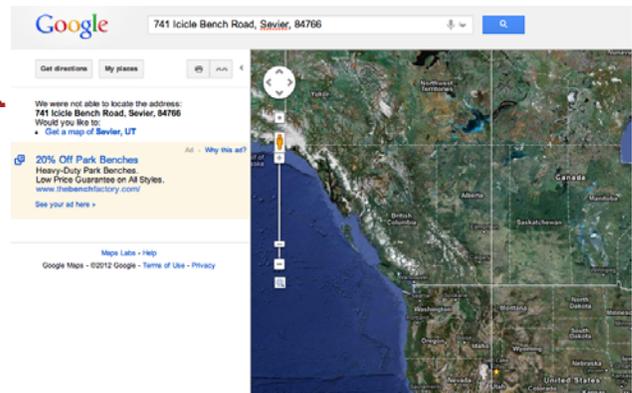
Steps towards a Solution

AGRC is offering grants to each county in the amount of \$13-17k to establish a **Master Address List (MAL)**.

- County addressing authorities are more accurate, timely, and relevant.
- State agencies can benefit from county address information are the best source of address data.
- Gets state and county governments on the same "map" for addresses.

Example: Voter address - 741 Icicle Bench Road, Sevier Utah, 84766

Google can't find
it!



Sevier County Clerk assigns a geographic point to the address



Outcomes:

- Verified voter location
- SAME address info loaded into regional 911 dispatch center

MAL Grant Overview:

- Kickoff meeting w/representation from county offices (Commission, Recorder, Sheriff, Assessor, Clerk, Surveyor)
- An authorizing official designated by the County Commission to oversee the creation of county addresses.
- Monthly updates of countywide address according to the defined data structure.
- Making the data publicly available, free of charge, via electronic accessible means.
- Documentation of the process for assigning addresses.
- Many counties already have processes for assigning addresses, all counties are eligible for this grant.
- Grant period: April 2012 - November 2012
- AGRC will provide needed assistance to counties.

This will not only benefit state government, but will also help state government functions that impact county governments (eg. taxation, transportation, business registration, and voter information) work more to benefit county governments.

Questions? Contact AGRC

Sean Fernandez, Cadastral Manager (801.209.9359, sfernandez@utah.gov)

ATTACHMENT A
STATE OF UTAH – DEPARTMENT OF TECHNOLOGY SERVICES,
AGRC STANDARD TERMS AND CONDITIONS

1. **COUNTY:** The COUNTY shall have no authorization, express or implied, to bind the State of Utah or the above State Agency to any agreements, settlements, liability, or understanding whatsoever, unless herein expressly set forth. Persons employed by the STATE and acting under direction of the COUNTY shall not be deemed to be employees or agents of the STATE.
2. **AUTHORITY:** Provisions of this contract are pursuant to the authority set forth in Sections I-07 of the State of Utah Accounting Policies and Procedures and any other relevant provisions of the STATE.
3. **RENEGOTIATIONS OR MODIFICATIONS:** This contract may be amended, modified, or supplemented only by written amendment to the contract, executed by the parties hereto, and attached to the original signed copy of this contract. AGRC has no obligation to perform any services not specified in the contract.
4. **TERMINATION:** This contract may be terminated, with or without cause, in advance of the specified expiration date by either party, upon 30 days prior written notice being given to the other party. On termination of this contract, COUNTY will make payment for all services rendered and/or costs obligated to date of termination.
5. **CONTRACT JURISDICTION:** The provisions of this contract shall be governed by the laws of the State of Utah.
6. **SEPARABILITY CLAUSE:** The declaration by any court or other binding legal source that any provision of this contract is illegal and void shall not affect the legality and enforceability of any other provision of this contract unless said provisions are mutually dependent.
7. **INDEMNITY CLAUSE:** The COUNTY agrees to indemnify, save harmless, and release the State of Utah and the State officers, agents, and employees from and against any and all loss, damages, injury, liability, suits, and proceedings arising out of the performance of this contract by the COUNTY, its officers, agents, volunteers, or employees. The STATE agrees to indemnify, save harmless, and release the Utah County and the County officers, agents, and employees from and against any and all loss, damages, injury, liability, suits, and proceedings arising out of the performance of this contract by the STATE, its officers, agents, volunteers, or employees.
8. **NONAPPROPRIATION OF FUNDS:** Contractual service obligations of the STATE to be fulfilled after the current fiscal year are contingent upon funds to maintain the servicing agency being appropriated, budgeted, or otherwise made available. If funds are not appropriated or otherwise available to maintain the servicing agency, this contract may be terminated without penalty by the STATE upon giving thirty (30) days written notice.
9. **DATA:** All data received or compiled by the STATE under this contract becomes the property of the State of Utah. Access to and confidentiality of said data will be governed by the rules and procedures of the agency with whom the data originated when such rules are specified as an amendment to this contract.
10. **DEADLINES:** AGRC's agreement to all deadlines and costs in this contract is contingent upon the COUNTY's performance of such actions as are instrumental to the completion of this contract. If the COUNTY fails to act in a timely manner, AGRC may opt to consider the contract terminated under the conditions of Paragraph 4.
11. **CONFLICTS:** Conflicts, if any, between Attachment A and any other attachments will be resolved in favor of Attachment A.

ATTACHMENT B
SCOPE OF WORK
2012 MASTER ADDRESSING LIST (MAL) PILOT

The State of Utah, Department of Technology Services, Automated Geographic Reference Center, referred to as STATE, is distributing Legislative authorized grants to several counties, referred to as COUNTY, to establish and maintain an authoritative, web-accessible Master Address List (MAL) for all residential and business locations within their county.

The work to be performed is to establish a standard county wide process to create and maintain addresses and involve all departments with a need and interest in up-to-date address data.

1. The grants are awarded to the COUNTY based on bid proposals.
2. The bid proposal is a written proposal and should include the anticipated MAL managing agency/official(s), the publishing strategy including mechanism and update cycle, and anticipated information structure. Additionally, the proposal should describe resources and anticipated processes for building the starting point for the MAL dataset (from existing address point, voter registration, parcel data, tax records etc.), and anticipated work to quality control, expand, or otherwise enhance their MAL product.

Upon acceptance of the proposal the COUNTY will be authorized to begin the project in accordance with the following outline:

1. The County will hold a kickoff meeting including all County departments that have an interest in address data, i.e., County Clerk, Assessor, Recorder, Sheriff, Surveyor, Public Works, GIS, County Commission etc.
2. The County Commission will designate the authorizing official for the creation of county addresses. The MAL will be managed by the authorized County government offices so that addresses can be entered into the MAL by the authorizing official at the creation of the address.
3. The MAL should be compiled from all authoritative address data and locations.
4. Updates will be made to the MAL monthly. It is recommended that updates to the MAL are made daily providing new addresses to other organizations, especially those with immediate needs for this information such as emergency responders and those involved in construction-related activities such as Blue Stakes of Utah's utility marking process.

ATTACHMENT B
SCOPE OF WORK
2012 MASTER ADDRESSING LIST (MAL) PILOT

Required Data Structure

The MAL will be maintain in a structured digital format with a minimum set of descriptive attributes to include:

- House Number
- Prefix Direction
- Street Name
- Street Type or Direction
- Unit Number (optional but recommended)
- Address System (Grid) Name
- X Coordinate
- Y Coordinate
- Date (Added, or Most Recent Modification)
- Parcel ID (If available)

Please use NENA/FGDC Addressing Standard compatible abbreviations for Prefix, Street Type, Suffix Direction, Sub Units. Also, please use “Highway XX” for addresses on all state and US highways.

This is a link to the NENA/FGDC compliant US Postal Standards (Appendix B and C) therein are most relevant: <http://goo.gl/tgLrU>

The addresses must be in a parsed address structure. The example immediately below shows how this might be done in a comma-delimited .txt file with an initial column header row and subsequent data rows (only 2 are shown).

Example:

```
HN,Pre,Name,Type,Dir,Unit,AddressSystemName,X,Y,LastModified  
345,S,Main,St,,Apt B,Salt Lake County,424802,4512979,1/1/2012  
120,E,400,,S,,Logan City,431128,4631016,1/21/2012,Parcel_ID
```

Examples available via web (*links are case sensitive*):

This is an example of a Google Doc spreadsheet showing how the County MAL could be shared and maintained: <http://goo.gl/mDh38>

This is an example of a web service that returns JSON format structured information from an existing database, in this case for voter precinct data. County address data could be shared in a similar way: <http://goo.gl/Zi0j5>

ATTACHMENT B
SCOPE OF WORK
2012 MASTER ADDRESSING LIST (MAL) PILOT

Deliverables

1. A publicly accessible MAL available online and free of charge., via
2. Any of the following methods:
 - A shared spreadsheet in a software-as-a-service application (ex. a Google Doc spreadsheet, or WordPress page) accessible via a persistent URL.
 - A comma-delimited text file or shapefile at a persistent ftp or http URL.
 - Geographic data in either structured text (JSON or XML) or, ESRI format or WFS format feature services.
3. Documentation:
 - A policy or resolution will be written outlining the process for creating and maintaining the MAL in accordance with the requirements of this grant.
 - The policy or resolution will be put in place and followed as outlined.

Project Reporting

1. The authorizing official designated by the County Commission will be the point of contact (POC) for this Scope of Work and is responsible for all coordination and reporting with the STATE.
2. The POC is responsible for completion of all required deliverables by November 30, 2012.
3. The POC shall report the total hours worked to the STATE since the commencement of the Scope of Work by end of day on the following dates:
 - July 1, 2012
 - October 1, 2012
 - November 30, 2012



Contract # _____

STATE OF UTAH CONTRACT

1. **CONTRACTING PARTIES:** This agreement is between the State of Utah, Department of Technology Services, Automated Geographic Reference Center (AGRC), 1 State Office Building Fl 6, Salt Lake City, Utah 84114-1201, (Agency Code 110) referred to as STATE, and the following County, which is a Government Agency.

County Name: _____

Address: _____

City, State, Zip: _____

Federal ID# _____ Vendor Code _____ Commodity Code _____

2. **GENERAL PURPOSE OF CONTRACT:** The general purpose of this agreement is an AGRC grant for: Work to be performed by the county to establish a standard county wide process to create and maintain a Master Address List (MAL), assign a managing agency/office(s), create a standard data structure and provide web accessible updates on a regular cycle as defined in Attachment B: Scope of Work - County Addressing Project.

3. **CONTRACT PERIOD:** Effective date 5-1-2012. Termination date 2-1-2013, unless terminated early or extended in accordance with the terms and conditions of this contract.

4. **DUE DATE:** The due date for the deliverable of this grant is **November 30, 2012** The STATE will conduct a mid-term contract review (August 30, 2012) to assure the work is being done or scheduled for completion within the terms of this contract. If progress toward completion of the work cannot be documented, the COUNTY risks the possibility of contract termination.

5. **GRANT VALUE:** County will be granted funds a minimum of **\$13,000** up to a maximum of **\$17,000** for funds authorized by this contract. County must contribute an additional 20% match (\$2,600 to \$3,400)

6. **PREREQUISITE:** A prerequisite to executing this contract requires all COUNTIES applying for these funds to provide the STATE with the current county address points.

7. **ATTACHMENTS INCLUDED AS PART OF THIS CONTRACT:**

- Attachment A: State of Utah Standard Terms and Conditions
- Attachment B: Scope of Work – County Addressing Project

Any conflicts between Attachment A and other Attachments will be resolved in favor of Attachment A.

DOCUMENTS INCORPORATED INTO THIS CONTRACT BY REFERENCE BUT NOT ATTACHED HERETO:

A. All other governmental laws, regulations, or actions applicable to goods and/or services authorized by this contract. This Agreement does NOT constitute an Interlocal Cooperation Agreement pursuant to the Utah Interlocal Cooperation Act as set forth in the Utah Code Annotated 11-13-101 et seq., 1953 as amended.

IN WITNESS WHEREOF, the parties sign and cause this contract to be executed.

CONTRACTOR

STATE

County Commission/Council Member

Spencer Jenkins, Director AGRC

Printed Name and Title of Signer (Type or Print)

Department of Technology Services

Division of Finance