2015 NACo Achievement Awards - NOMINATION SUMMARY
GIS Web Portal – Montgomery County Maryland

1. Abstract of the Program

The Montgomery County (MC), Maryland Department of Technology Services - Geographic Information Systems (DTS-GIS) team launched a new GIS Web Portal in June, 2014 to replace an existing GIS website that hadn't been refreshed in over 10 years. The new GIS web portal features an innovative, services oriented design that facilitates ease of use, enables improved navigation, and provides improved features and functionality for both external (County residents and constituents) and internal (County government employees) user populations. The GIS web portal also includes several new on-line mapping services that enable constituents to easily locate and obtain information about County programs, services and facilities.

The GIS Web Portal can be accessed on the County's website at the following URL: http://montgomerycountymd.gov/gis/.

2. The Problem / Need for the Program

The role of GIS in County government operations has undergone a significant transformation over the past decade. In the 1990's and early 2000's, GIS was synonymous with maps. Montgomery County Departments and Agencies looked to DTS-GIS primarily for the purposes of producing large scale paper or PDF maps for various uses, including but not limited to posting maps on websites or in office suites, providing maps to first responders for use in their vehicles, and producing maps for use in civil and criminal court cases.

During the mid to late 2000's, GIS gradually evolved to become a more integral operational tool with more widespread applications. County Departments and Agencies began asking DTS-GIS to develop innovative GIS web maps, applications and other on-line solutions for the purposes of improving data visualization and business analytics. Additionally, County residents expected to see more sophisticated GIS based applications available on the County website.

In response to these evolving trends and changing expectations, the DTS-GIS team designed, developed and deployed a new, innovative GIS web portal to satisfy the changing and increasingly complex needs of the various stakeholder groups.

3. Description of the Program

Recognizing the need to upgrade its outdated existing GIS website, leadership in the County's Department of Technology Services (DTS) initiated a program in late-2013 to develop a new GIS Web Portal. The County's DTS-GIS team was tasked with designing and developing the new GIS Web Portal and was challenged to do so under the following constraints:

1. Conduct benchmarking to identify best practices and innovative designs relative to the presentation and delivery of GIS solutions on government (and private sector) web sites
2. Leverage existing software, software licenses and hardware
3. Use existing staff resources
4. Complete the project in under 6 months

The DTS-GIS benchmarking process entailed the review and evaluation of approximately 1 to 2 dozen progressive State, Local and Federal Government agency websites in an attempt to identify innovative design solutions and best practices relative to the presentation of GIS services and information. Unfortunately, DTS-GIS wasn't able to locate a single government jurisdiction's website that provided a user-friendly, easy to use and highly functional GIS Web Portal to its constituent groups. Therefore, DTS-GIS elected to create its own design rather than replicate an existing design.

DTS-GIS developed an innovative GIS web portal that leverages existing County web site design templates to deliver a visually appealing and easy to use user interface. The GIS web portal home page (Figure 1) includes the standard County header section with links to (1) Alert Montgomery, (2) the search engine, and (3) services and information for or about County Residents, Businesses or Prospective Businesses, Government, County Departments, On-Line Services, and MC311, the County's non-emergency customer contact center.

Below the standard County header section is the main area of the GIS web portal. The main area is divided into three general sections.

- The top section features prominently displayed icons that provide easy access to GIS Data, Maps, Applications, Services, and Projects. Selecting the Maps link (Figure 2) or Apps link (Figure 3) provides users with access to a number Story maps as well as GIS applications and map viewers respectively.

    o Important to note about the Data icon (Figure 4) is the fact that the County introduced a new, simplified GIS data policy during 2014. The new policy states simply that "Montgomery County Government makes standard GIS datasets publicly available at no cost.
    o Several publicly available GIS datasets and maps are currently available on the County's Open Data web site, dataMontgomery, at http://data.montgomerycountymd.gov. The County's Open Data Implementation Plan calls for DTS-GIS to publish additional GIS datasets to dataMontgomery during the next 12-36 months.
    o The GIS Portal also features its own data download page (Figure 5). Some 60 data layers (in zipped shapefiles) are available for download here. However, in some cases, the County may charge a fee ($75 per hour) to cover the cost to produce a non-standard GIS dataset.
    o Links to other data sources (such as the Park and Planning Commission, WSSC, MWATA, and federal) are also provided on this data download page. Thus, this is a one-stop shop for searching for and obtaining GIS data.
- The middle section currently features access to MyMontgomery, an innovative web-based mapping tool that allows County residents to pinpoint the location of County services in a map based format.

The MyMontgomery mapping application (http://www.montgomerycountymd.gov/mcg/mymontgomery.html) is designed to be intuitive to use with no training required. The application contains three sections – a header, the places of interest, and the map. The header section contains an eye-pleasing graphic, which clearly explains MyMontgomery's goal: *Locate County Service Locations Near You!* Beneath the graphic are a set of simple instructions which describe the steps required to use MyMontgomery. The application

permits users to enter a street address, or zip code, or City, or a combination of all three, and will search the data layer repository to find the specified service locations up to a 10-mile radius. MyMontgomery exposes several data layers to the user; these data layers are grouped into the following five (5) logical Places of Interest (PLOI) categories: Education, Public Safety and Health, Government Centers, Transportation, and finally, Recreation, Leisure and Culture. Beneath the places of interest is the Google map which is used to display the search results. The PLOI data is provided by DTS-GIS and is updated on a quarterly basis by County fiscal year. The remaining data presented on the map, including bike routes and traffic data, are provided by Google and its partners.

- The bottom section is used to promote several innovative story maps developed by the DTS-GIS subsequent to the launch of the GIS web portal. Current story maps featured on the GIS web portal home page are those related to Public Libraries, Parks, and Government Facilities. All story maps leverage ESRI's ArcGIS on-line platform.

The Public Libraries Story Map (http://gis.montgomerycountymd.gov/libraries/) allows users the ability to obtain information about the 21 branch libraries in Montgomery County. A user simply selects a library location in the left navigation, and an icon appears on the map. Alternatively, a user may simply select an icon on the map that corresponds to the library location. The user then clicks the Details link to access additional information such as the hours of operation and a link to the branch library website.

The Public Facilities Story Map (http://gis.montgomerycountymd.gov/recreation/) allows users the ability to obtain information about the public facilities, including recreation centers, senior centers, and aquatic centers in Montgomery County. A user simply selects a facility in the left navigation area, and an icon appears on the map. Alternatively, a user may simply select an icon on the map that corresponds to the facility location. The user then clicks the Details link to access additional information such as the hours of operation and a link to the facility website.

The Parks Story Map (http://gis.montgomerycountymd.gov/mcparks/) allows users the ability to obtain information about amenities available in two of the County's recreational parks: Cabin John and South Germantown. A user simply selects a park amenity in the left navigation area, and an icon appears on the map. Alternatively, a user may simply select an icon on the map that corresponds to the park amenity location. The user then clicks the Details link to access additional information such as the address, hours of operation, a link to the park website and a detailed amenity description (where available).

Finally, to assure content freshness, DTS-GIS intends to update the content in the middle and bottom sections of the page on a regular basis. As new GIS web maps and applications are developed, these will be added to and showcased on the home page of the GIS Web Portal.

4. Use of Technology

The various web pages constructed to present the Data, Apps, Services, and Projects were developed using HTML and Javascript. The GIS data download page utilizes MS Access to allow users to search for desired GIS data layers. The entries in the Map Gallery were PDF maps created using the ESRI ArcMap. The seven Story Maps were constructed using the ESRI ArcGIS Online templates. The entries in the Apps section were developed using either ArcGIS Online templates and/or supplemented with Javascript5 custom code. The Javascript5 based apps can be

accessed by a wide array of mobile devices. Apps mostly consume online map services served up by the Internet facing ESRI ArcGIS Server software.

5. The Cost of the Program

The total cost to develop the GIS Web Portal including staff time is approximately $75,000. The project was completed over the course of 6-months. DTS-GIS staff leveraged existing hardware and software licenses to develop the new portal design as well as the map applications that are accessible via the portal.

Jurisdictions seeking to replicate the County's efforts may be expected to invest $50,000 to $150,000 or more to develop a similar GIS Web Portal. The cost will depend on such factors as the richness of existing GIS services, information and applications; labor costs; the extent to which stakeholders are engaged in the design process; the need for new software licenses and/or hardware etc.

6. The Results/Success of the Program

The new GIS Web Portal was launched in June, 2014. Subsequent to its launch, DTS-GIS experienced a dramatic increase in utilization of the new web portal as users were introduced to the site. Within a few weeks, utilization leveled off and has remained generally consistent in each month subsequent to its launch, according to *Google Analytics* reports used by DTS-GIS. Management in DTS reviews these reports on a regular basis and, where appropriate, takes action periodically to drive additional traffic to the site.

DTS-GIS has received overwhelmingly positive feedback about the new GIS web portal from different user groups. Users generally report high levels of satisfaction with the overall look and feel and ease of use.

7. Worthiness of an Award

This program is an example of a highly innovative and low-cost use of existing technologies and platforms to facilitate the redesign and launch of an increasingly important operational tool, the County's GIS Web Portal. In addition, the County's DTS-GIS leveraged the project to develop a series of new on-line mapping applications that provide easy and visual access to important information about County programs, services and facilities.

As noted earlier, the County undertook an extensive benchmarking effort prior to the redesign of its GIS website. Through this exercise, Montgomery County was not able to locate or identify any local, state or federal government GIS Web Portal that presents the access to the jurisdiction's or Agency's GIS services and information in a manner as well as the County's new GIS web portal. Montgomery County's new GIS Web Portal is user-friendly, easy to use, rich in content, and highly functional.

The County's GIS Web Portal can serve as a model for other jurisdictions, small, medium or large, seeking to connect with constituents and other stakeholders who use GIS.

8. Supplemental Materials

The following figures are included in the supplemental PDF document.

Figure 1: GIS Web Portal Home Page

Figure 2: The Maps Link Provides Access to a Number of Story Maps

Figure 3: The Apps Link Features Several GIS Applications and Map Viewers

Figure 4: A one-stop shop for web visitors to obtain (County) GIS data

Figure 5: Some 60 countywide GIS data layers are available for download