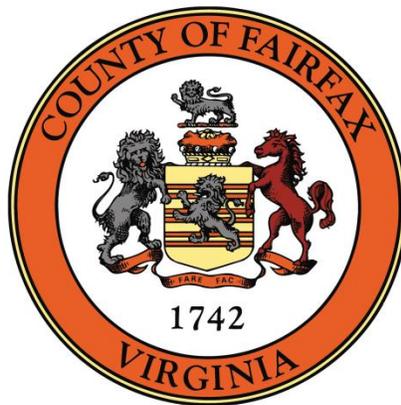




*Fairfax County*  
**VIRGINIA**

# **GIS Excellence Awards**



***November 15, 2012***



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- III. Awards Category Descriptions
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- V. Awardees by Category with Project Description



## AGENDA

### **1. Opening Introduction**

#### **Gordon Jarratt**

*Enterprise Systems Division Director, Department of Information Technology*

### **2. Featured Speakers**

#### **Penny Gross**

*Vice Chairman of the Board of Supervisors, County of Fairfax Virginia*

#### **Wanda Gibson**

*Director of the Department of Information Technology & Chief Technology Officer*

#### **Tom Conry**

*GIS & Mapping Services Branch Manager*

### **3. Presentation of Awards**

**Penny Gross, Wanda Gibson & Tom Conry**

### **4. Closing**



# GIS Excellence Awards

## November 15<sup>th</sup>, 2012

The use of GIS technologies in the County has led to the work that you see posted in the Map Gallery and honored here at the GIS Excellence Awards.

As part of the GIS Day celebrations, the GIS Excellence Awards are given annually for outstanding uses of GIS technology by Fairfax County employees and agencies. The awards were created to recognize and celebrate those County employees and agencies that are effectively and innovatively using GIS technology. This year, over 45 submissions were received for the seven categories of recognition.

The awards have two categories recognizing individual and/or team accomplishments and five categories recognizing agency accomplishments. The following page lists the categories and their descriptions.

*The awards were determined by a judging panel which included representatives from the George Mason University Department of Geography, the Northern Virginia Community College GIS Certificate Program, and Esri (a leading developer of geospatial technology).*



# 2012 GIS Excellence Award Categories

## Individual/Team Categories

FIRST, SECOND, AND THIRD PLACE AWARDS FOR EACH CATEGORY

### ***Best GIS Cartographic Product/Presentation***

This award is intended to showcase the power of GIS tools in creating accurate, instructive, and visually-pleasing maps. Criteria used to evaluate the entries include:

- clarity of purpose and intent
- success in clearly explaining spatial concepts
- visual balance and appeal
- inclusion of necessary map elements and conventions

### ***Best Use of GIS for Analysis***

This award is intended to showcase the power of GIS tools in undertaking sophisticated spatial analyses that aid County operations and answer significant questions. Criteria used to evaluate the entries include:

- complexity of analysis
- ingenuity of GIS methods for answering analytical questions
- project benefits to a team or department
- effective demonstration of the information and insight gained (e.g., diagrams, maps, presentations, reports, text)

## Agency Categories

ONE AWARD PER CATEGORY

### ***Best Use of GIS on the Web***

- Presented to the agency that best demonstrates GIS interactivity, maps, and/or data on the internet or County intranet

### ***Best Use of GIS for Public Outreach***

- Presented to the agency that best utilizes GIS to serve the public with map documents, customer service operations, press relations, or public events

### ***Most Significant Data Contributor***

- Presented to the agency that has been the most influential in creating or refining spatial data for the County

### ***Best GIS Integration or Application Development***

- Presented to the agency that has incorporated GIS into their operations to the greatest degree and/or has created a significant GIS software application

### ***Most Significant Progress***

- Presented to the agency that has shown the greatest improvement in their use of GIS over the past year



# List of All Excellence Award Entries

## GIS Cartographic Product/Presentation

- 18.2-46.3:3 - Enhanced Punishment for Gang Activity Taking Place in a Gang-Free Zone – Jessica LeBlanc; FCPD-CAU  
Confidence Fraud and Larceny Crimes Against the Elderly (65+) – Jessica LeBlanc; FCPD - CAU  
McLean Community Campus – Gayle Hooper; Buddy Rose; FCPA  
Historic Huntley – Buddy Rose; FCPA  
Lee District Park – Buddy Rose; FCPA  
Fairfax County Comprehensive Land Use Plan Map – Harry Rado, Meghan Van Dam, Sandi Beaulieu, Linda Blank, Lilian Cerdeira, Greg Chase, Chris Havlicek, Noel Kaplan, Aaron Klibaner, Kim Rybold, Laurie Turkawski; DPZ  
2011 Reckless Driving Location Awareness – Jeffrey Gallagher; FCPD  
McLean Community Center Special Tax District – Buddy Rose; FCPA  
Respect the Red 2012 – Brandi Horita; FCPD-OSB  
Branch Chief Responsibility Areas – Daniel White; DPZ  
South County/Lorton Area Orienteering Assessment – Katherine (Keg) Good; FRD  
Use of ArcMap Transparency versus Adobe Layers – Katherine (Keg) Good; FRD  
Braddock District – Chip Galloway; DPWES - MSMD  
Backlick Rail Station Plow Map – Chip Galloway; DPWES – MSMD  
Riverbend Park Master Plan Revision GMP & CDP – Andy Galusha; FCPA  
Regional Incident Response: The National Capital Region – Incident Management Team's (NCR-IMT) Assistance to the City of Alexandria's Fire Department Line of Duty Death (LODD) – Eric K. Fisher, National Capital Region - Incident Management Team (NCR-IMT); FRD

## Use of GIS for Analysis

- 18.2-46.3:3 - Enhanced Punishment for Gang Activity Taking Place in a Gang-Free Zone – Jessica LeBlanc; FCPD-CAU  
Confidence Fraud and Larceny Crimes Against the Elderly (65+) – Jessica LeBlanc; FCPD - CAU  
Special Needs Registry Study – Diane Jenkins; FCHCD  
Suspect Burglary Map – Emily Rusin; FCPD  
Analysis of Drug Incidents Involving Offenders/Arrestees 18 Years and Under – Camie King; FCPD  
GIS Verizon Buildout Tool – Rick Ellrod, Praveen Tewari, Allan Hide, Scotty Scott; DCCS



[Governor's Exceptional Medically Underserved Population](#) – Adrian Joye, Sherryn Craig, Chris Stevens, Rosalyn Foroobar; HD

[2012 High-Impact DWI Enforcement](#) - Brandi Horita; FCPD-OSB

[2011 Reckless Driving Location Awareness](#) – Jeffrey Gallagher; FCPD

[First Due Maps](#) – Katherine (Keg) Good; FRD

[Access to Community-Based Organizations that Provide Household Goods in Fairfax County](#) – Komail Khaja, Paul Maliszewski; NCS

[Reston-Dulles Corridor Study](#) – Katherine (Keg) Good; FRD

[Use of ArcMap Transparency versus Adobe Layers](#) – Katherine (Keg) Good; FRD

[Tropical Storm Lee - Stormwater Infrastructure](#) – Chip Galloway; DPWES-MSMD

[Riverbend Master Plan Revision](#)– Andy Galusha, Sandy Stallman, Jay Rauschenbach, Todd Brown, Marty Smith, John Callow, Karen Sheffield, Wayne Brissey, Kristen Sinclair, Aimee Wells; FCPA

## **Use of GIS on the Web**

[The Department of Planning and Zoning \(DPZ\) Map Portal/DPZ Public Website](#)–

Department of Planning & Zoning

[Burke Lake Road Race](#)– Fairfax County Park Authority

## **Use of GIS for Public Outreach**

[Tysons Corner Commuter Bike Map](#)– Department of Transportation

[Teenage Depression and Suicide in Fairfax County](#) – Department of Neighborhood & Community Services

[Providence RECenter; South Run District; Burke Lake Road Race; Synthetic Turf Fields by Ownership & Status](#) – Fairfax County Park Authority

[Planning & Zoning JavaScript Viewer](#) – Department of Planning & Zoning

[Holiday Season Anti-Drinking and Driving PSA](#) – Police Department – Operations Services Branch

[Lake Braddock - Spillway](#) – Department of Public Works and Environmental Services – Maintenance and Stormwater Management Division

## **Significant Data Contributor**

[CAD-GIS Issue Ticketing](#) – Department of Public Safety Communications

[FCPD Generator Deployments, July 29 derecho](#) – Police Department – Operations Services Branch

[Synthetic Turf Fields by Ownership & Status](#) – Fairfax County Park Authority



## **GIS Integration or Application Development**

[Human Services Resource Guide Redesign](#) – Department of Neighborhood and Community Services

[GIS Verizon Buildout Tool](#) – Department of Cable and Community Services

[Integration of GIS in Land Survey Branch](#) – Department of Public Works and Environmental Services – Land Survey Branch

[GIS Application Integration into Canine Unit Operations \(Incident Analysis Tracker\)](#) – Police Department – Operations Services Branch

## **Significant Progress**

[Department of Public Works and Environmental Services – Land Survey Branch](#)

[Department of Housing and Community Development](#)

[Fairfax County Park Authority](#)

[Department of Planning and Zoning](#)



## Best GIS Cartographic Product/Presentation *Individual/Team Awardees*

### **Third Place**

**The National Capital Region – Incident Management Team’s Assistance to the City of Alexandria’s Fire Department Line of Duty Death**

**Eric K. Fisher, National Capital Region - Incident Management**

*Fire and Rescue Department*

On February 8th, 2012, Alexandria Fire Department Paramedic Joshua Weissman suffered fatal injuries while responding to a vehicle fire on I-395. The City of Alexandria called upon the National Capital Region - Incident Management Team (NCR-IMT) to assist them in their response to the Line of Duty Death (LODD). Alexandria was able to call upon NCR-IMT to help with the planning, coordination, and response involved with the LODD events. GIS maps and analysis were critical in the support of all these events, and over 44 separate maps and GIS-derived products were produced. The submitted poster showed examples of maps and GIS collaboration that ranged from products to assist with planning for the multiple events, to public notification effort of city residents, to planning for transit services and associated road closures.

### **Second Place**

**Branch Chief Responsibility Areas**

**Daniel White**

*Department of Planning and Zoning*

This map was created to show areas of responsibility in the county for our Zoning Evaluation Division. It has been a challenge for people to figure out who covers which areas in the county for zoning applications. This map has been circulated around our agency and posted on the DPZnet page of the Intranet to aid in the identification of areas of responsibility for applications. This has been a huge help for staff to direct citizens or staff to the correct branch to answer questions about applications.

### **First Place**

**Use of ArcMap Transparency versus Adobe Layers**

**Katherine (Keg) Good**

*Fire and Rescue Department*

As part of the proposed budget cuts, FRD-GIS was asked to prepare coverage maps of different apparatus. Using Network Analyst, a networked data set was built then service areas based on 8 minute vehicle travel time were created. The resulting maps were created in two formats. For the first, the travel time for each unit is partially transparent. This gives an idea of how much of the County is not reachable within 8 minutes travel time (white) and how much of the County is reachable by multiple units (darker shades). This contrasted with a second map, without transparency, that provides the additional capability to turn individual layers on and off when exported as an Adobe PDF. As a static map it’s not impressive, but for a decision maker, it may be used interactively to see the effect of eliminating different combinations of units.



# Best Use of GIS for Analysis

## *Individual/Team Awardees*

### **Third Place**

#### **Governor's Exceptional Medically Underserved Population**

**Adrian Joye, Sherryn Craig, Chris Stevens, Rosalyn Foroobar**

*Health Department, Environmental Health Division*

The Fairfax County Health Department sought to have designated the Lee/Mt. Vernon Rational Service Area (RSA) as a Governor's Exceptional Medically Underserved Population. The Health Department analyzed data used in the Community Health Status Assessment to discern sub-population and sub-regional trends. To validate the disproportionate health outcomes in Fairfax, particularly in the proposed Mount Vernon RSA, a comprehensive geographic analysis of key health indicators was conducted. GIS technology revealed three regions in the County with poor health outcomes and low social-economic status. Based on the analyses, the Lee/Mount Vernon Area emerged as the area with the greatest health needs. As a final result of the team's efforts, the designation was approved by both the Governor and the Health Resources & Services Administration.

### **Second Place**

#### **Riverbend Master Plan Revision**

**Andy Galusha, Sandy Stallman, Jay Rauschenbach, Todd Brown, Marty Smith, John Callow, Karen Sheffield, Wayne Brissey, Kristen Sinclair, Aimee Wells**

*Fairfax County Park Authority*

This Master Plan Report showcases the power of GIS tools in undertaking spatial analysis that aid County operations and answer significant questions. GIS was used to analyze spatial data related to geography, natural and cultural resources, as well as existing infrastructure, to evaluate the park to determine the locations for resource management as well as future park facilities. Many maps were created that show existing resources and constraints to further plan for the most appropriate site development. The spatial analyses help the Park Authority provide the best resource management, facilities, and services that it can, which ultimately benefiting county citizens.

### **First Place**

#### **Reston-Dulles Corridor Study**

**Katherine (Keg) Good**

*Fire and Rescue Department*

The Silver Metro Line is expected to increase population within the Reston-Dulles Corridor Study area by nearly 117,000 by the year 2030. In anticipation of this increase, the Fire and Rescue Department evaluated future needs through geospatial tools. Based on incidents per population formulas, the number of incidents is expected to nearly double from the total 2011 incidents. With increased calls for service and more high-rise buildings, the major recommendation is to build a new full size fire station in the North County Government Complex.



## Best Use of GIS for Public Outreach Agency Winner

### Planning & Zoning JavaScript Viewer

#### Department of Planning and Zoning

*Daniel White, Greg Chase, Allison Clark*

This interactive map is an attempt to utilize the power of ArcGIS Server to enhance the users' experience on the county's website and provide useful information. This is an updated version of the interactive map using the JavaScript Application Programming Interface. This application has been enhanced to allow an individual to search an address or place as well as locate zoning applications and related zoning layers for a specific area. It is DPZ's objective to place the information in the hands of the public, elected officials or anyone else trying to find information about DPZ business. Advanced interactive mapping is a huge step for DPZ to keep pace with the expectations of the quickly evolving digital generation. This application serves as a template which DPZ can apply to other aspects of our business to provide improved service.

## Honorable Mentions

### Tysons Corner Commuter Bike Map

#### Fairfax County Department of Transportation

*Tom Wampler, Glenn Hiner*

In an effort to increase awareness of bicycle transportation options, this unique map was created to help cyclists (and pedestrians) in the Tysons Corner area navigate the complex urban transportation network. The genesis of this concept was to overcome the obstacles of safely commuting, by bike, into the largest employment center, and one of the highest points in Fairfax County. This map was designed as the first in a series of public outreach maps for navigating the "Last Mile" into Tysons Corner. With the construction of the Metrorail Silver Line, this first map is especially helpful as a guide to navigate around construction that can act as a barrier to pedestrian/bicycle access. This map has been printed on a cost-effective microfiber cloth to serve as portable media for cyclists on the go. The media serves a dual purpose as both a map, and as an all-purpose utility cloth.

### Teenage Depression and Suicide in Fairfax County

#### Department of Neighborhood and Community Services

*Sophia Dutton, Mary Nelms*

The purpose of this project is to help identify the county's youth who are at risk for depression and to determine their geographic patterns while highlighting the difference in rates of prevalence between male and female students. This information will be used by county agencies, FCPS, PTAs, and other community organizations to better allocate resources and locate programs to address youth depression. In addition, the project deliverable provides information to staff, parents, and other stakeholders on how to help depressed youth as well as informs them about additional risks that depressed youth face, such as bullying and substance use.



## Best Use of GIS on the Web Agency Winner

**The Department of Planning and Zoning Map Portal/DPZ Public Website**

**Department of Planning and Zoning**

*Greg Chase, Daniel White, Allison Clark, Harry Rado*

Since 2008, the Department of Planning and Zoning (DPZ) has focused on evolving the DPZ public website to make it more user-friendly by providing quick access to important, relevant and timely information. Increasingly, the incorporation of GIS data throughout the site has helped DPZ reach this goal.

In 2012 DPZ continued in the evolution of the use of GIS on the DPZ website with the development of the DPZ Map Portal Page. This page brings DPZ GIS maps generated from diverse sources to a dedicated page that provides a one-stop-shop for displaying information efficiently with user friendly access and navigation. The centerpiece of this new portal is the interactive Fairfax County Planning and Zoning Viewer, an interactive map, which provides information about current zoning applications and associated zoning layers. Another prominent feature of the DPZ Maps Portal Page is the Fairfax County Comprehensive Land Use Map. It provides access to the high resolution zoom-able PDF version of the map developed by DPZ staff and is a prominent feature of the site.

The incorporation of GIS capabilities throughout the DPZ website continues to bolster staff efficiency and assist the agency in achieving its goals of efficiently delivering user friendly access to DPZ information and services to the public, development community, staff, and county officials.



## Most Significant Data Contributor Agency Winner

**FCPD Generator Deployments, July 29 derecho**

**Fairfax County Police Department, Operation Services Branch**

*Brandi Horita*

On Friday, June 29th a severe storm (derecho) hit Fairfax County significantly impacting all major functions within the county. Derecho caused massive power-outages throughout the region and knocked out electricity to traffic signals at major intersections. With the safe flow of traffic being a primary concern, in addition to other strategies, the Traffic Division deployed generators to critical intersections lacking power.

As with any event as large as a derecho, the storm prompted an after-action review of departmental operations. With the size and population of Fairfax County, traffic safety efforts are always a high priority with both the police and transportation departments. Although just one element of the safety response, generators were a critical resource. A study was needed to determine which intersections received generators as well as the total number deployed.

To retrieve the locations of the generator placements, a process of querying service-related police records located in the department's RMS or records management system was completed. This resulted in a list of 61 locations throughout the county which were then geocoded as a layer on a county map. This data is being used operationally, to examine which intersections may be prone to outages in the case of severe weather; for planning, to determine if we may need additional generators, or more officers to maintain them during an emergency; and for communicating response efforts of the FCPD (Ref: "Response to Board of Supervisors).



## Best GIS Integration or Application Development Agency Winner

### GIS Verizon Buildout Tool

#### **Department of Cable and Communication Services**

*Rick Ellrod, Praveen Tewari, Allan Hide, Scotty Scott*

The Communications Policy and Regulation Division (CPRD) needed to assess the progress of Verizon's FiOS construction according to the terms of Verizon's franchise agreement with the County. The agreement requires that Verizon build out the entire County in two stages, designated "Initial" and "Extended" service areas, with specified completion dates. Verizon provided lists of addresses excluded from service, but it would have been difficult to evaluate the clustering of those addresses without a geographic representation. GIS developed an application to spatially represent the addresses Verizon was excluding. The interactive GIS application allowed the viewing of the reasons for exclusion assigned by Verizon -- why particular addresses were not being reached.

The interactive GIS tool has greatly assisted CPRD in assessing Verizon's build-out. CPRD can easily visualize the extent of the build by using the application to view all excluded addresses, either on a large scale by clusters, or on a small scale house by house. The County can determine where enforcement action is necessary to ensure that addresses are constructed as agreed under the franchise agreement. Each address is labeled with key data including its location, address, and exclusion category. Interactive tools allow the user to measure distances, such as the length of a road, to determine the number of houses per mile. This assists CPRD in applying one of the criteria for exclusion, the housing density (homes per mile).

## Honorable Mention

### Human Services Resource Guide Redesign

#### **Department of Neighborhood and Community Services; Department of Information Technology**

*Jaya Kori, Wu Yao, Sapna Sharma, Renu Aggerwal, Phuong Nguyen, Keisha Dotson, Aimee Garcia*

The Human Services Resource Guide (HSRG) provides access to community members, county staff and partners about the array of human services available in Fairfax County. This tool is depended upon by Coordinated Services Planning staff in the Department of Neighborhood and Community Services to provide information to assist Fairfax county residents with their emergency needs as related to critical things such as food, shelter, financial assistance, clothing, and healthcare.



Recent upgrades have allowed for a more visually appealing and user friendly format that boasts advanced mapping capability. Maps now allow users to view resources as map points based on service search results. Coupled with a zip code search, which uses the Master Address Repository, the public is better able to determine the services available in their communities. The advanced mapping feature offers the convenience of identifying directions without ever having to leave the tool. The continued enhancements to the HSRG not only showcase the technological expertise but also show the commitment to make information and resources easily accessible to the Fairfax community as a whole.



## Most Significant Progress Agency Winner

### Daily Integration of GIS in Land Survey Branch Department of Public Works and Environmental Services - Land Survey Branch

*Yilia Vega-Claudio, Susan Sheviak, Vickie McEntire, Chris Jensen*

The Land Survey Branch (LSB) integrates GIS into so many daily processes from pre-planning jobs through to completion. It does this through finding many ways to enhance its professional survey quality products using the information available in GIS.

LSB uses GIS base data daily in a variety of ways:

- Draft project limits – aids visual communication for agreement between parties.
- Calculate acreage to survey in new projects – aids estimation of time required for the project.
- Obtain sanitary and storm structures mapping – aids field crews locating the structures in the field and ensure all structures are surveyed.
- Obtain inventory asset numbering for storm and sanitary structures for use in base surveys so the numbering remains consistent throughout the project life starting with pre-design surveys.

LSB has tailored the GIS tools to our needs for projects in office and field:

- Create AutoCAD drawing of Roadways, Edge of Pavements, Parcels, and Tax Maps GIS Planimetrics Layers. This saves time for Survey Analysts making Vicinity Maps showing the general location of the project on a plat or plan.
- Create a key of the photomosaic grid associating 6 inch tiff with the tax map. Staff can easily find the tiffs needed to support survey exhibits with photo imagery.
- Share record information with other agencies. Scanned infrastructure as-built record drawings prepared for Capital Projects accessible to County staff as PDF's through convenient Hyperlinks.
- Perform a blunder-detection quick check of datum on small-scale GPS projects by comparing final survey coordinates of photo-identifiable features to the coordinate data on the aerial imagery.
- Supplement field survey data in AutoCAD with various layers from GIS to strengthen and clarify Exhibits, Plans, and Plats produced by Land Survey Branch.