Fairfax County GIS Excellence Awards Ceremony

GIS Day 2008

Wednesday, November 19th

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   Tom Conry
   GIS & Mapping Services Branch Manager

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   Gordon Jarratt
   Enterprise Systems Division Director, Department of Information Technology

   Wanda Gibson
   Director of the Department of Information Technology & Chief Technology Officer

3. **Presentation of Awards**

   Tom Conry & Wanda Gibson

4. **Closing**

GIS Excellence Awards

November 19th, 2008

The use of GIS technologies in the County has led to the work that you see posted in the hallways, on display by the exhibitors, 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 GIS Excellence Awards were created in order to celebrate and recognize those County employees and agencies which are effectively and creatively using GIS technology. This year, over 50 submissions were received for the seven categories of recognition.

The award categories have changed from previous years. The awards have two categories recognizing individual and/or team accomplishments and 5 categories recognizing agency accomplishments. The following page lists the new categories and their descriptions.

The awards were determined by a judging panel which included representatives from the Department of Management and Budget, George Mason University Department of Geography, and the Environmental Systems Research Institute (ESRI).

2008 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 with the best use of GIS interactivity, maps, and/or data on the internet or County intranet

Best Use of GIS for Public Outreach

- Presented to the agency with the best use of GIS to serve the public in such items as map documents, customer service operations, press relations, and public events

Most Significant Data Contributor

- Presented to the agency that has created or refined the most significant spatial data for the County

Best GIS Integration or Application Development

- Presented to the agency that has integrated 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 demonstrated the most progress in their use of GIS over the past year

Best GIS Cartographic Product/Presentation

Individual/Team Awardees

Third Place

Providence District Pedestrian Crash Locations and Funded Pedestrian Improvements

Jeffrey Hermann

Fairfax County Department of Transportation

The map shows pedestrian crash locations in relation to the funded pedestrian projects in the Providence District. This project is the start of a larger effort in the FCDOT to establish a current geographic database of the pedestrian projects in the County. Some of the GIS and cartographic processes used in this map include geocoding the locations of the accident data, weighting the data by the number of crashes per intersection through the use of the "collect events" spatial statistics tool, and creating a "hillshade" for a three-dimensional terrain effect.

Second Place

Cell Tower Usage of a Stolen Cell Phone

Jessica Beaty

Fairfax County Police Department

This map was created at the request of a detective in preparation for interviews with persons of interest (POI) in a residential burglary. Data was obtained from a cellular telephone company containing the X/Y coordinates of the cell towers used. These coordinates were plotted and callouts were used to denote the dates and times of the calls "pinging" from each respective tower. The circular buffers were added to illustrate the close proximity of the burglary location, the POI's residence, and the majority of cell towers – most inside of one mile. This demonstrates that the stolen cell phone never traveled far from the neighborhood from which it was stolen.

First Place

Net Residential Foreclosure Counts by Subdivision in July 2008

Krystal Workman

Department of Housing and Community Development

Foreclosure data from the Department of Tax Administration data was aggregated from parcels to subdivisions. Using a 3-D module of the County's GIS, a cartographic 3-D representation of the foreclosure intensity was created. Finally, the Adobe Illustrator graphics application was used to create the map's legend and text labels.

Best Use of GIS for Analysis

Individual/Team Awardees

Third Place

3D Modeling to Evaluate Proposal of Angle of Bulk Plane in Single Family Residential Districts

Daniel White, Jack Reale, Eileen McLane, Lorie Kirst, James Patteson, Chris McArtor, Bruce Nassimbeni

Department of Planning & Zoning, Department of Public Works & Environmental Services – Land Development Services

Over the past several years, a large house being built in close proximity to existing smaller houses has emerged as a common concern in established neighborhoods. A possible new regulating tool called the *Angle of Bulk Plane* was evaluated using GIS and other 3-D applications to ascertain its affect on controlling allowed building sizes. Neighborhoods were modeled with both existing and proposed 3-D buildings for an extensive analysis of how an *Angle of Bulk Plane* regulation may be applied and how house sizes would react to varying lot sizes and shapes.

Second Place

3-D Massing Models of Tysons Corner Prototypes; DPZ

Matt Ladd, Indrani Sistla, Faheem Darab

Department of Planning & Zoning

The Board of Supervisors established the Tysons Land Use Task Force to recommend updates to the Comprehensive Plan for Tysons Corner. The Task Force developed two alternative prototypes for the future of Tysons Corner and requested 3-D visualizations of the two prototypes. Aerial and street-level views were modeled and mapped to visualize and analyze the impact of two different development prototypes. Recently acquired County 3-D building models in addition to custom project created 3-D models were assembled and mapped. Proposed plans and regulations were informed and influenced by the analysis.

First Place

Michael Demmon, Tim Demorest

Fairfax County Department of Transportation

A GIS method was developed to identify future transit centers along Richmond Highway Corridor in Fairfax County, Virginia. The overall goal of this analysis was to identify and predict which stations see, and will continue to see, heavy usage as a result of the local demographics. The Network Analyst extension was utilized to determine actual walking distances to transit centers—a method more accurate and sophisticated than simpler circle buffers. An automated geoprocessing script was created using ModelBuilder so that analysis can be easily repeated at various locations in the county.

Best Use of GIS on the Web
Agency Winner

LDSnet application for Spatial Searches and Interactive Maps for Land Development Information

Department of Information Technology, Enterprise Service Division, Land Planning & Development Branch

Woodrow Bellamy, Linda Boaz, Reeta Kumar

LDSnet is a web application that provides a wealth of land development data. Data in LDSnet relates to processing of zoning applications, subdivisions, and site plans. The processing agencies wanted to expand the existing search abilities with address entries displaying all submission plans, applications, and building permits within a specified distance. To provide visual orientation, the searched data would be plotted on a GIS map. The application has opened up a new web GIS interactive experience for both agency and internet users.

Best Use of GIS for Public Outreach
Agency Winner

Community Parking District Outreach, Commuter Benefit Program Marketing

Fairfax County Department of Transportation

Glenn Hiner, Mike Demmon, Tim Demorest, Maria Turner, Ellen Gallagher

This award is presented to the Department of Transportation for their remarkable use of GIS in public outreach evidenced by two submitted projects. The Commuter Benefit Program project documented the department's proactive efforts to analyze the commuting behavior of large Fairfax County employers so that they may take advantage of County sponsored commuting programs. The Community Parking District Outreach submission documented efforts to create a map exhibit so that citizens could easily interpret the boundary legal description of a proposed parking district in Hunter Mill.

Most Significant Data Contributor
Agency Winner

IPLS (Integrated Parcel Life Cycle System) Population, Forecasting, and Building Data

Department of Systems Management for Human Services
Department of Information Technology
Anne Cahill, Fatima Khaja, Jaya Kori, Wu Yao

IPLS (Integrated Parcel Life Cycle System) creates a data repository that enables county staff to have access to information for planning and decision-making on a geographically detailed level. The data created in IPLS are stored at the parcel level allowing data to be summarized by virtually any geography. The IPLS tool extracts data from multiple county data bases and layers (DPZ, FIDO, IAS, GIS, PAWS and ZAPS); analyzes and loads these data to the GIS server; and then creates parcel level demographic data using these inputs. The demographic data layers, created by IPLS, include: current housing unit, current households, current population, forecast housing unit, forecast households, forecast population, owned housing market value, residential development pipeline, & nonresidential gross floor area.

Best GIS Integration or Application Development
Agency Winner

Wastewater Project Document Tracker Extension to ArcGIS

Department of Public Works & Environmental Services, Wastewater Management
Edward Langdon

Wastewater Management has produced a custom extension to the ArcGIS platform that is used to store and retrieve all related documents of the sanitary sewer plan review & acceptance process of sewer facilities into the counties public sewer system. During the construction process of public sewers, many documents are created and received from the public and engineers at Fairfax County. This extension is used to convert and store these documents into a digital format, and then store them into the counties Oracle database. These documents can then be retrieved quickly using spatial operations in ArcMap, and subsequently be used to research issues involving maintenance, ownership, and history of the system.

Most Significant Progress
Agency Winner

Department of Housing & Community Development
Krystal Workman, Diane Jenkins

The Department of Housing & Community Development has significantly ramped up its GIS activities over the last year. They acquired a new spatial analyst position and have enabled many of their staff to use GIS technologies. Several recent initiatives have included a vigorous spatial analysis of foreclosures in the County, the construction of an interactive website that allows geographic queries to aid housing program applicants, using the County's GIS to research properties, and the production of several high quality maps detailing the department's activities and assets.

Complete Listing of GIS Excellence Award Submissions

GIS Cartographic Product/Presentation

Net Residential Foreclosure Counts by Subdivision in July 2008– Krystal Workman, HCD
Potential Consolidation and Distance to Transit Platform– Kim Rybold, DPZ
Defining the Reston Community Parking District – Maria Turner, Ellen Gallagher; FCDOT
Providence District Pedestrian Crash Locations and Funded Pedestrian Improvements – Jeffrey Hermann, FCDOT
South Fairfax County Transit and Services Map – Tim Demorest, Mike Demmon, Ray Johnson; FCDOT
Synthetic Turf Fields in Mason District – Lynne Johnson, FCPA
Planning Commission Exhibits; Madeira School SEA review – Pat Rosend, FCPA; Daniel White, DPZ
Lake Fairfax Camp Grounds – Buddy Rose, FCPA
UOSA Project Impact to Parks – Lynne Johnson, FCPA
Mason Street Robberies – Glenn Duncan, FCPD
Cell Tower Usage of a Stolen Cell Phone – Jessica Beaty, FCPD
2007 vs. 2006 Calls for Service Change Density – Karin Lanigan, FCPD
Reston District Assault/Abduction Series – Karin Lanigan, FCPD
Franconia District GPS Larcenies from Vehicles – Simone Engelhardt-Greer, FCPD
Flood Monitoring Stations – Chip Galloway, MSMD

Use of GIS for Analysis

Foreclosure Density Analysis Overlaid by Foreclosed Property Assessed Values & by Foreclosed Sales Price – Krystal Workman, FCPD
3D Modeling to Evaluate Proposal of Angle of Bulk Plane in Single Family Residential Districts – Daniel White, Jack Reale, Eileen McLane, Lorie Kirst, DPZ; James Patteson, Chris McArtor, Bruce Nassimbeni, DPWES
3-D Massing Models of Tysons Corner Prototypes – Matt Ladd, Indrani Sistla, Faheem Darab; DPZ
Temporary Traffic Management During Construction of Major Road Projects – Ellen Gallagher, Steve Knudsen, Maria Turner, William Harrell, Tim Demorest; FCDOT
Synthetic Turf Fields – Eric Brunner, Synthetic Turf Branch; Andrew Galusha; FCPA
Expanding the Database Multiple Hyperlinks to External files Using GIS– John Rutherford, FCPA

Medical Reserve Corps Volunteerism Rates– Dianne Quebral, Adrian Joye; HD
Audubon Estates Manufactured Housing Community: Water features Study – Diane Jenkins, HCD
Hotspot Analysis of Larcenies – Amisha Amin, FCPD
GIS Assists in Decreasing GPS Thefts – Camie King, FCPD
2007 vs. 2006 Calls for Service Change Density – Karin Lanigan, FCPD
Reston District Assault/Abduction Series – Karin Lanigan, FCPD
Transit Center Analysis using ArcGIS ModelBuilder – Michael Demmon, Tim Demorest; FCDOT
Mason Street Robberies – Glenn Duncan, FCPD
Stormwater Flow Accumulation Analysis – Chip Galloway

Use of GIS on the Web

Interactive Maps for Online Housing Application – Department of Housing and Community Development
LDSnet application for Spatial Searches and Interactive Maps for Land Development Information – Department of Information Technology, Enterprise Service Division, Land Planning & Development Branch
Great Parks, Great Communities Interactive Website Maps, Lake Fairfax Map Series, Historical Aerial Photography GIS Article – Fairfax County Park Authority
GIS Web Application for Sanitary Sewer Assets – Department of Public Works & Environmental Services, Wastewater Management

Use of GIS for Public Outreach

Tysons Land Use Task Force Planning Exhibits, Reston Master Plan Review Public Map –Department of Planning & Zoning
Community Parking District Outreach, Commuter Benefit Program Marketing – Fairfax County Department of Transportation
Cub Run Stream Valley Map, *Great Parks, Great Communities*, Kings Park Master Plan, Historical Aerial Photography Article – Fairfax County Park Authority
Mount Vernon District Larceny, GPS Theft Hotspot Identification and Education – Fairfax County Police Department

Significant Data Contributor

IPLS (Integrated Parcel Life Cycle System) Population, Forecasting, and Building Data – Department of Systems Management for Human Services, Department of Information Technology

Park Land Cover Layer, Park Public Safety Data, Park Trails – Fairfax County Park Authority

GIS Integration or Application Development

Future Transit Center Location – Fairfax County Department of Transportation

Wastewater Project Document Tracker Extension to ArcGIS – Department of Public Works & Environmental Services, Wastewater Management

Significant Progress

Department of Planning and Zoning
Department of Housing and Community Development