GIS Excellence Awards 2015



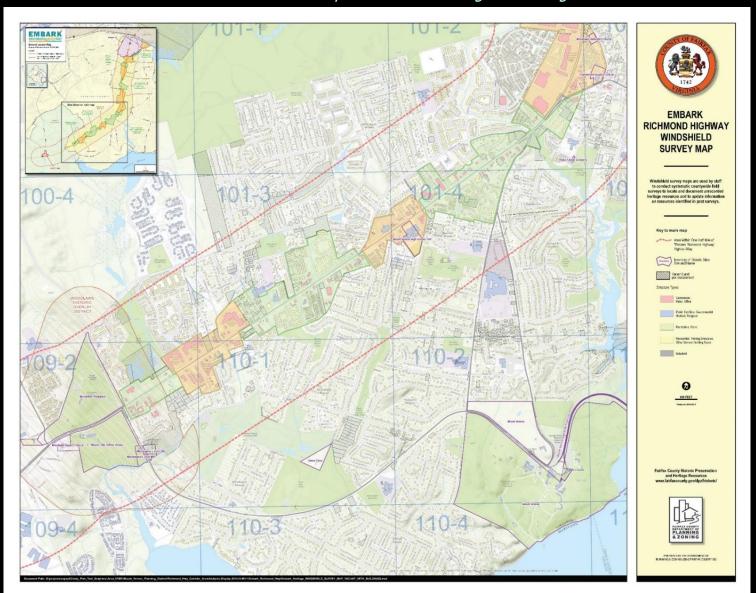
Fairfax County, Virginia

November 19, 2015

CARTOGRAPHIC CATEGORY

Third Place

Embark Richmond Highway-Windshield Survey Map-South Sheet Harry Rado, Laurie Turkawski, Eva Campbell, Linda Blank Department of Planning and Zoning



CARTOGRAPHIC CATEGORY

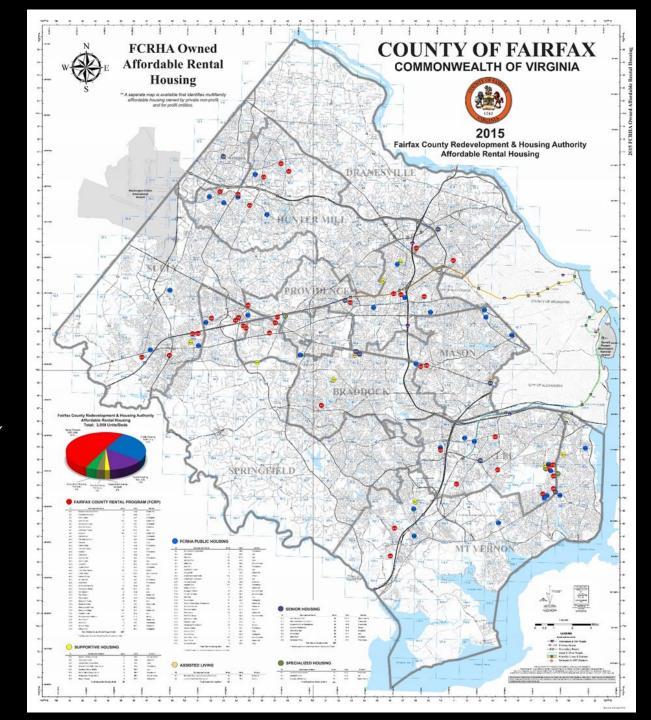
Second Place

FCRHA Owned Affordable Rental Housing

Peter Uhrmacher

Department of Housing and Community

Development



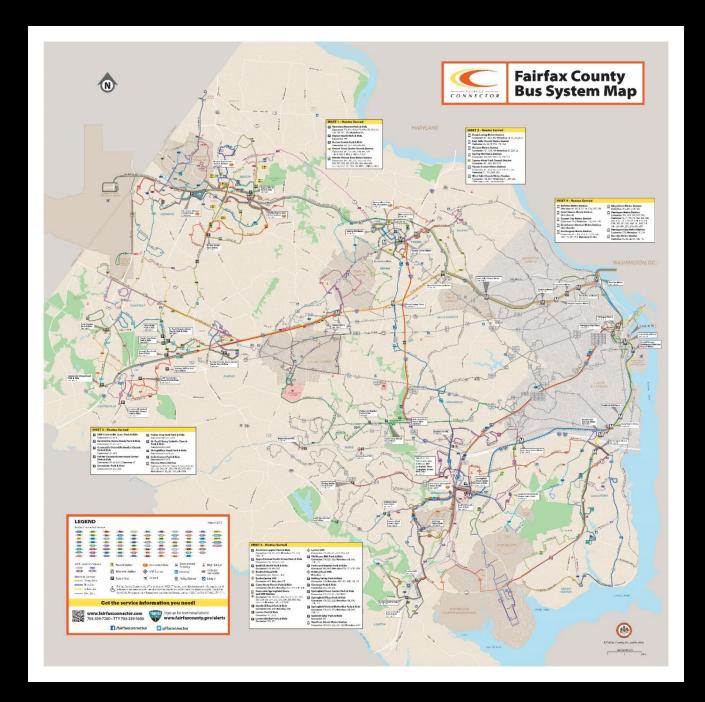
CARTOGRAPHIC CATEGORY

First Place

Fairfax County Bus System Map

Vincent Mendolia, Tom Wampler

> Department of Transportation



ANALYTIC CATEGORY

Third Place

Walkway Analysis

Chip Galloway, Andrew Nault, Keith Appler, Shaukat Faheem

Stormwater Management Division of the Department of Public Works and Environmental Services

ASSIGNING GEOREFERENCED PHOTOS TO WALKWAYS

Automated Photographic-walkway Condition Assessment Assignment Based on Linear Condition Product Ranking.

We obtained 8200 walkway and 486 pedestrian bridge georeferenced photos. These walkway photos were then assigned a condition ratings.





MSMD staff linked the obtained data points and metadata to DPWES walkway asset ID's through the proximity status of each photo. MSMD staff resourced the assessment scores based on summed problem length multiplied by assessed severity.

The process that we used created an integer that represented the calculation of the product of the inverse of contractor severity and length. Assessment rankings were recoded to scale proportionally to damage. Preprocessing was done on wallkway points where if a point was greater than 200 feet away from said DPWES walkway then that record was removed. Further, if a wallkway was given multiple different severity ratings than all of the severity ratings was considered to the property of the

Conditio	of All Walkways Cour	itywide
2 mms characterophy 2 mms		
· · · ·	-	

Good	0	
Deteriorating	2	
Failing	3	
Length	Length Score (β)	
Spot	5	
< 10 lt.	7	
10-25 ft	18	
25-50 ft	38	
50-100 ft	75	
100-200 ft	150	
> 200 ft	300	

a * B = Assesed Severity

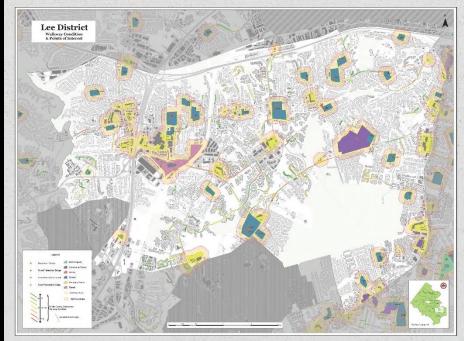
Assessed Condition Condition Score (a)

ngth Score (b)

BOFFERS CREATED ARROWS PORCHATION CENTERS NEARS TO DIRECTE NEARLY OSES MALERAYS IN OFFERT CLES OF REFAIR. (BASE TO THE LETS SHAMS A SECENTIALISM MALERAY ATTAIN 200 SEC.

OF AN ELEMENTARY SCHOOL

MSMD staff made maps showing countywide walkway condition which highlighted the proximity to certain community resources, such as schools, VRE/Metro stations, community centers, and commercial centers.



ANALYTIC CATEGORY

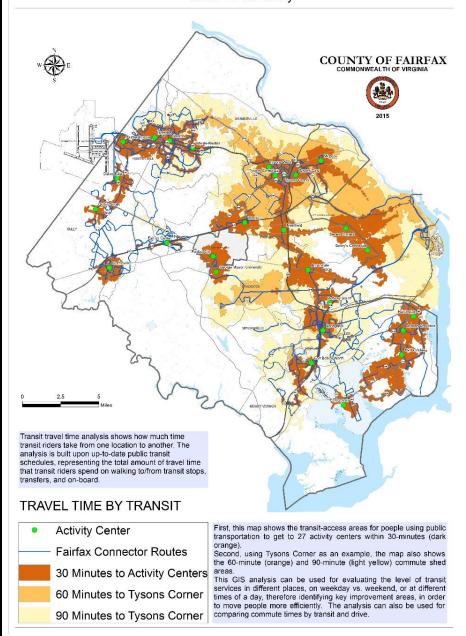
Second Place

Transit Travel Time Analysis for Fairfax County Activity Centers

Hejun Kang

Department of Transportation

Travel Time to Activity Centers by Transit 9:00 AM Weekday



ANALYTIC CATEGORY

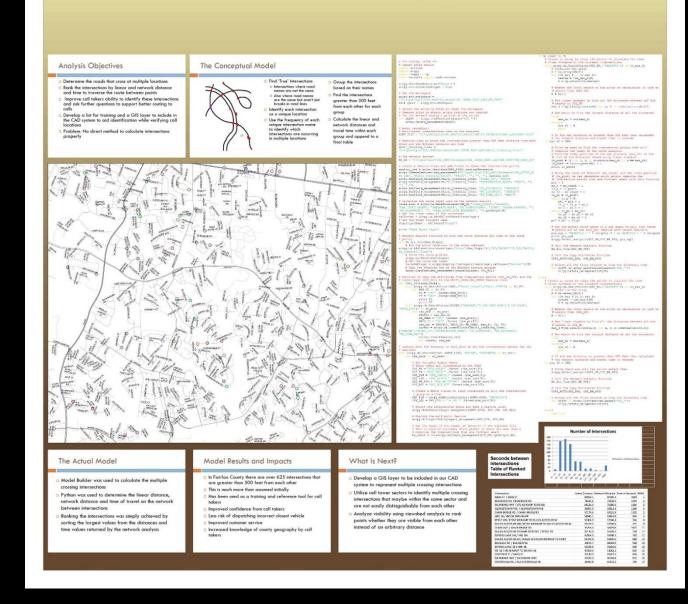
First Place

Finding Intersection

Christopher McCarthy

Public Safety Communications

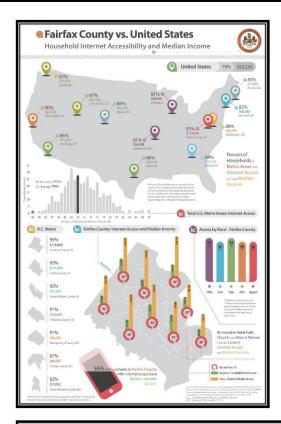
When the Same two Roads Cross at Multiple Locations Finding Intersection: Answering the Question: "Where is Your Emergency?" Has Added Urgency

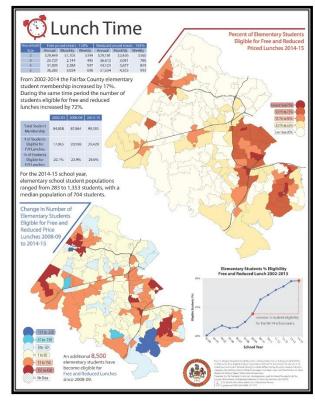


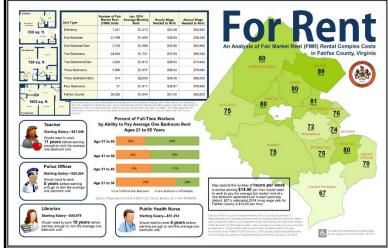
AGENCY CATEGORY Best Use of GIS for Public Outreach

Economic, Demographic & Statistical Research Data Visualizations

Department of Neighborhood and Community Services







Economic, Demographic and Statistical Research

2015 **Data Visualizations**



AGENCY CATEGORY Best Use of GIS on the Web

Use of ArcGIS Online During Fairfax 2015: The World Police & Fire Games

Fire and Rescue Department



USE OF ARCGIS ONLINE DURING FAIRFAX 2015: THE WORLD POLICE & FIRE GAMES



The 2015 World Police & Fire Games (WPFG)

were hosted by Fairfax County in summer 2015. Nearly 10,000 athletes from 68 countries participated in the games, resulting in over 25,000 visitors to the region.

GIS played a critical role in the games, and ArcGIS Online became a very useful platform for data collection and information sharing.

Using ArcGIS Online, we were able to:

- Leverage the Special Events Template available via ArcGIS Solutions. By making only slight customizations, we avoided having to set up a special events map from scratch.
- Collect data via Collector; which, after minimal training, allowed non-GIS users involved in WPFG to collect data.
- Use the Group functionality to collaborate with other agencies, jurisdictions, etc.
- Create and share specific applications developed for Fire & Rescue, Police, and the Board of Supervisors.
- Create and share a situational viewer that was continuously updated with the latest information; for use in the Emergency Operations Center & Games Operations Center.
- Showcase the value of GIS and ArcGIS
 Online to everyone involved in the games.



PRODUCT EXAMPLES



Groups

Provided the ability to share data and maps with a select group of users (not just in Fairfax), and keep content organized



Group Gallery App

A "one stop shop" to access all ArcGIS Online applications developed for the games



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Utilizing the Special Events Template...

The second secon



...and Collector for ArcGIS

Leveraging existing technology/templates saved time! Data collected in the field could be easily used in PDF & online maps





Situational Awareness Viewer

Provided access to data services related to the games. Always reflected latest schedule/venue changes. End user could query data, change basemap, zoom to venue location, print, etc.



Specialized Applications

Allowed for easy data filtering by area & date









Community Services Board











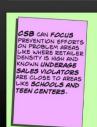
















AGENCY CATEGORY

Best GIS Integration or Application Development

Fairfax County Fire & Rescue Department: Safety in Our Community (SIOC) Program Fire and Rescue Department

Fairfax County Fire & Rescue Department: Safety in Our Community (SIOC) Program



The Fire & Rescue Department (FRD)'s Safety in Our Community (SIOC) program is a community outreach program that began in June 2013. SIOC embraces the FRD mission of "Preventing the 911 Call" by ensuring that residences in Fairfax County are equipped with information and supplies necessary to help protect them in the event of a fire or other emergency. As part of the program, firefighters go door-to-door, educating residents and installing smoke alarms, carbon monoxide alarms, and batteries in homes across the county



SIOC: History

Historically, SIOC activities were documented using pen and paper. Addresses and data were written on a paper form, and this information was later transcribed into digital format. Any mapping of the activities was done through geocoding; however, obstacles such as spelling mistakes, transcription errors, etc. made this process cumbersome and inefficient.

The search for a mobile GIS solution!

The SIOC program is inherently geospatial. Attributes are collected at addresses – making the program the perfect candidate for a GIS-based field data collection solution. In 2015 we set out to find this solution:



Potential Solution 1: Collector for ArcGIS seemed like a great idea. All of our stations have at least 1 iPad to access to the app. However, we could not overcome the "named user problem" - i.e., we do not have enough named user accounts or the financial resources to obtain enough accounts to allow for data collection throughout the county.



Potential Solution 2: The Emergency Data Gathering Repository (EGDR) — an in-house, Fairfax County solution developed by the Department of Information Technology (DIT). EDGR is used for field data collection in the form of Windshield Surveys, so we brainstormed on how the application could be applied to SIOC. After meeting with DIT, we decided that EDGR was the perfect solution for SIOC.

EDGR for SIOC: How does it work?

EDGR is available to FRD employees and is accessible on any device that has a browser and an internet connection. The application was loaded as an app onto each station's iPad for ease of use.

Step 1. Log-in to EDGR, type in the address you are visiting.



EDGR verifies the address and determines the XY location of each entry by querying a customized map service provided by DIT-GIS.

Step 2. Record SIOC activities.



Step 3. Retrieve and analyze data.

GEM_EDGR.dbo.v_FRD_SIOC_Data
GEM_EDGR.dbo.v_FRD_SIOC_Data_History

Data collected in EDGR are automatically saved to a spatially-enabled SQL View that can be displayed via a Query Layer in ArcMap, or accessed by data analysts via Management Studio. All reporting is done from one master dataset!

SIOC & EDGR in action

In March 2015, EDGR for SIOC was deployed. Data collection via iPads is easier than ever.











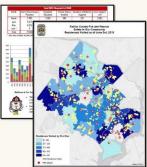


EDGR uses domains and other restrictions on fields, so data collection errors are few and far between.

Displaying and reporting the results: Product examples

Because the collected SIOC data is accessible to the FRD via a spatially-enabled SQL View, retrieving, displaying, and analyzing the data is simple and efficient. No more manual transcribing and geocoding!

System-wide reports



Data Driven Pages: Reports by Fire Box



Web Mapping Application in Development



ArcGIS Online allows for up-to-the-minute reporting via a link to the SQL database.

Documenting Saves! Easy data access/ reporting allows us to tie our incident data to SIOC activities.

Conclusions

Finding a mobile GIS solution for SIOC has revolutionized the program. Through this process we were able to:

- Leverage existing county technology (EDGR) for a cost-efficient transformation
- Eliminate large sources of error through mobile data collection and automatic address verification; no more data transcription and ArcMap geocoding
- Provide a direct link between the data collected and the data analyzed via MS SQL Server: now Data and GIS
 Analysts all access, analyze, and report from the same data source, eliminating potential confusion, copies of
 data, and sources of error. These data can also be linked with our incident data to document lives saved by SIOC.

AGENCY CATEGORY Most Significant Progress

Department of Neighborhood and Community Services



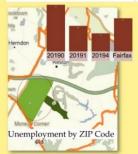
Human Services Environment in Reston



This report brings together Human Services-focused census and county data to support decision-making about the Reston Town Center North redevelopment project. The data are organized by the focus areas that guide the county's Human Services work as a way to highlight certain program goals and at-risk populations.

Current Human Services Assets in Reston

Economic Self-Sufficiency



Positive Living for Older Adults and Individuals with Disabilities

Percent Families in Poverty





	■ NONPROF	FIT ASSETS
10, 16, 27, 36	1 Capital Area Food Bank Farmers Market	10 Lake Anne Fellowship House
Barri Camero	Cedar Ridge Community Resource Center	11 Laurel Learning Center (Cornerstones)
20 2	3 Christ Fellowship Church	12 LINK
33 8 18, 19 Browns Chapter	4 (Employment Services)	13 Reston Community Church
2	5 Emery Rucker Community Shelter	14 Reston Drop-In Center
31 Lang Fast 32	6 FAITH	15 The Closet of Herndon
32	7 Herndon-Reston FISH	16 Volunteer Solutions
	8 Hunter Woods Fellowship House	17 YMCA – Reston
一川書 ()	9 INOVA Medical Facilities	
Crowds Come		ENT ASSETS
Rdpencent	18 Cedar Ridge Comm. Resource Center	31 Island Walk Housing
	19 Cedar Ridge/Forest Edge Computer Center	32 Lake Fairfax Park
Sunderpart	20 Crescent Apartments	33 Reston Comm Ctr (2)
600	21 CSB – Mental and Behavioral Health	34 Reston Glen Apartment Homes
	22 DFS Adult Protective Services	35 Reston Regional Library
	23 DFS Self Sufficiency	36 Skillsource
B C	24 Embry Rucker Shelter	37 Southgate Comm Ctr
	25 FCPD Reston Station	38 Stonegate Village
Language	26 Harbor House Housing	39 Teen Ctr at Hutchison ES
Lawyers Rd	27 Health Department Clinic	40 Teen Center at McNair ES
Difficult Ren	28 Healthworks FQHC	41 West Glade Apartment Homes
Stream Valley	29 Herndon Neighborhood Resource Center	42 YMCA – Reston (Teen Center)
	30 Herndon Senior Center	Co-wittenay
		100

A key factor in Human Services planning is the location and types of services available to at-risk populations. This asset map, populated with Human Services Resource Guide data, shows the location of current services offered. Does the distribution of services align with current and future need as detailed in the accompanying information?

Fairfax County High School Graduation Rate

Successful Children and Youth

- Disparities in educational attainment
- 28% of Fairfax County students receive free and reduced meals
 - 78% of Reston's Dogwood Elementary students

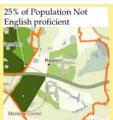
Sustainable Housing

- 35% of renters and 25% of homeowners are burdened by the combined expense of housing and utilities
- 43% of Coordinated Services Planning calls are for housing-related financial assistance

Healthy People



Connected Individuals





Fall cankerworm (*Alsophila pometaria*) defoliation in Fairfax County:

Data Collection, Analysis & Application

Fairfax County Forest Pest Management Branch



Introduction

The fall cankerworm (Alsophila pometaria Harris) is a native, defoliating insect which feeds on a broad variety of hardwood trees, notably maple, hickory, oak and beech (figure 1). Periodic outbreaks of this pest are common, especially in older declining forest stands. In Fairfax County, the Mount Vernon, Mason and Lee magisterial districts have in recent years, experienced the most severe infestations and associated defoliation. The Forest Pest Management Branch has gathered data on fall cankerworm female abundance since the early 2000s. Methods which guide current population monitoring of A. pometaria in Fairfax were developed according to peer-reviewed research conducted in the 1960s and 1970s by the US Forest Service. Flightless female moths are caught in sticky traps as the insects climb host trees to mate and lay eggs. As with most insect population dynamics, fall cankerworm's population has cycled in Fairfax County over the past 15 years. Research dictates that if a cumulative count of 90 females or more per trap per season is observed, a severe infestation and associated defoliation is likely the following spring (Kegg 1967). Observations of population outbreak levels occurred in the winters of 2012 and 2013 and declining populations in 2014 (see Figure 2). However, observations over time by urban foresters suggested that the threshold count of 90 females did not always correlate with a reliable defoliation prediction. Multiple factors may have contributed to this observation and in 2015, urban foresters sought to collect a variety of data, including an intensive ground-based defoliation survey to elucidate potential factors which may have impeded the reliability of the female moth count data.





Figure 1: Fall Cankerworm Defoliation

Fall cankerworm caterpillars feed on eaves, such as the oak pictured When populations reach outbreak levels, larvae can defoliate entire trees (left)

Fairfax County Average Fall Cankerworm,

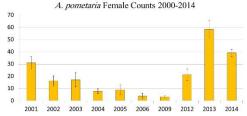


Figure 2: Average fall cankerworm (A. pometaria) females counted from 2001 -2014. The above graph shows the average fall cankerworm female counts collected during the active period of the adult A. pometaria female moths (bars represent standard error of the mean). An observed pattern of rising and declining populations has occurred with a stark increase occurring from 2009 until 2012 which was considered to be outbreak levels.

Defoliation Survey & Analysis

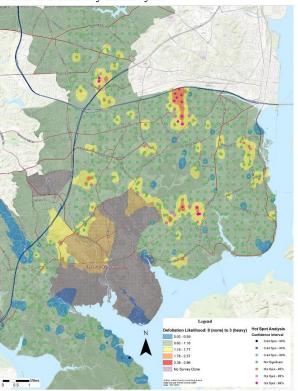


Figure 3: Inverse Distance Weighting (IDW) Interpolation of 2015 A. pometaria defoliation surveys. A raster image was created from a grid system of survey points in order to describe data between survey points using Inverse Distance Weighting interpolation (Spatial Analyst Extension). Each grid location in a 2000 foot network was surveyed by a team of two urban foresters in May-June 2015, comprising a total of 995 points. Defoliation was described as none (0%), low (category 1: 1-30%), moderate (category 2: 31-60%), heavy (category 3: 61-80%) and severe (category 4: 81-100%). No instances of severe defoliation were observed.

Further, in order to test the significance of the observed defoliation, the Hot Spot Analysis tool was utilized (Spatial Analyst Extension). This metric determined which clusters of moderate or heavy defoliation were indicative of an infestation or an increased potential for subsequent defoliations as measured by significance. The majority of points were not considered to be significant as most of the data was measured as low defoliation (1-30%). Only one significant cold spot was identified in the Mason Neck area of Mount Vernon District. Several significant hot spots were identified. The most important of which were four separate groupings: near Route 1 in Mt. Vernon, between Franconia Rd. and I-95 in Lee District, north of Edsall Rd. and I-395 in Annandale and west of the George Washington Memorial Parkway in Fort Hunt.

Based on a threshold of 90 insects per trap, oftentimes, areas which were predicted to be defoliated had no to minimal damage. Yellow and orange polygons from the IDW analysis which did not have a corresponding significant hot spot (green dots) exemplify this phenomenon.

Collector for ArcGIS

The application was introduced to Forest Pest staff by DIT. GIS for use with hazardous trees. Upon realizing the potential to streamline field data collection, all Forest Pest staff received in-person training on the application from the GIS department. The flagship project to use Collector was to measure A. pometaria defoliation in a regular grid along with several other variables. In previous years, paper maps were prepared, printed and the data entered into a database after the end of the season. For 2015, a geodatabase was designed for the project to include several domains and subtypes that would make field data collection very intuitive, including drop-down lists and hierarchical symbology. Use of the Collector application saved approximately 15% of staff time which would have devoted to the project in previous years.





Figure 4: Example collected point using iPhone 5 (left). Each field is associated with an imported domain list (above) to reduce collection errors for: percent defoliation categories, host tree genus and diameter at base height (DBH).

Location accuracy was improved using a Garmin GLO* external GPS transmitter.

All data points were exclusively collected using the Collector application, downloaded as a geodatabase from ArcGIS Online and used for further analysis in ArcMap (see Figure 3).

Applications & Future Work

Fairfax County has supplied all of the fall cankerworm population data to cooperators at Virginia Commonwealth University (VCU). These researchers, along with an established Fall Cankerworm Task Force of local managers and stakeholders, aim to update the methodology of A. pometaria defoliation prediction and standardize methods for urban and suburban areas. Currently, according to a submitted manuscript by Dr. Jonathan Walter (VCU), a new tentative threshold has been suggested for Fairfax County. In addition, several new variables were suggested to be collected in subsequent seasons, including diameter at breast height (DBH) and tree species.

The raster image created from 2015 defoliation survey points will help guide surveys for the Fairfax County 2015-2016 A. pometaria monitoring season. Areas identified as having heavy defoliation along with significant hot spot analysis will be prioritized.

Formerly, surveys were conducted based solely on female counts from previous survey seasons as well as observed defoliation from aerial surveys. This heat-map approach will hopefully allow us to better target our surveys to make the process more efficient and

Automated Excel To Work-crew Pipe-series Mapper

This application automates the creation of PDF map book series using a spreadsheet listing as input. Python with Arcpy were the principle tools used and the results can be seen in the images to the far left and right. An Excel file is specified by the user which then is processed in conjunction with settings taken from a preset MXD-file/feature class map template whose parameters can be modified to suit user tastes. The end result streamlines cartographic efforts to provide maintenance maps to crews and increases productivity by eliminating the creation of individual maps.









































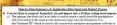




















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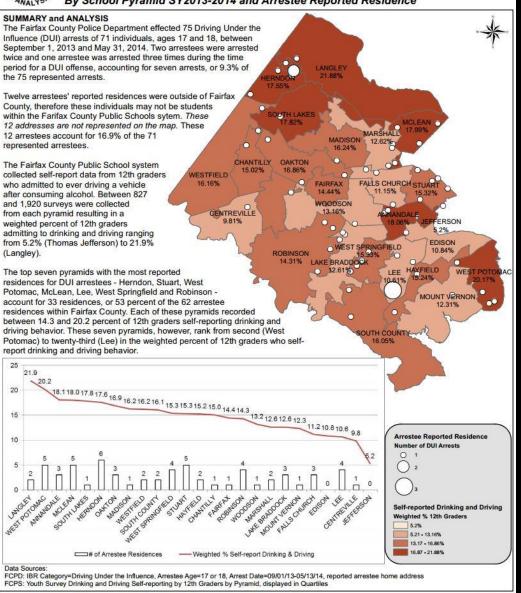




Driving Under the Influence Arrests of 17 and 18 Year Olds and Self-reported Drinking and Driving Behavior of 12th Graders

Between September 2013 and May 2014

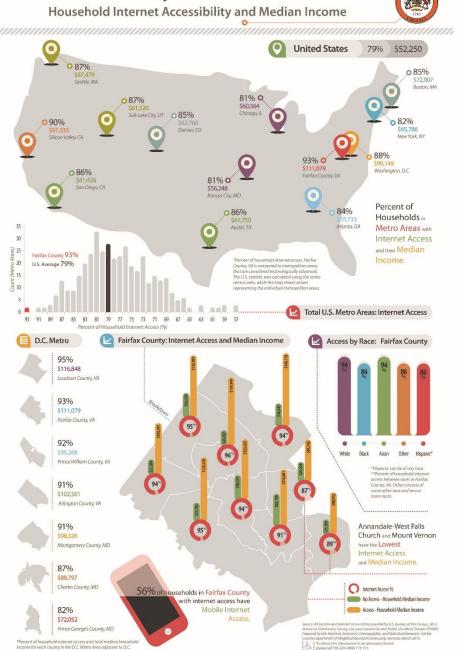
By School Pyramid SY2013-2014 and Arrestee Reported Residence



NVTA FY2015-16 Program



Fairfax County vs. United States



To obtain this information in an alternative formet please call 703-324-4600, TTY 711.

Giles Run Road







Section A-A = Section B-B =



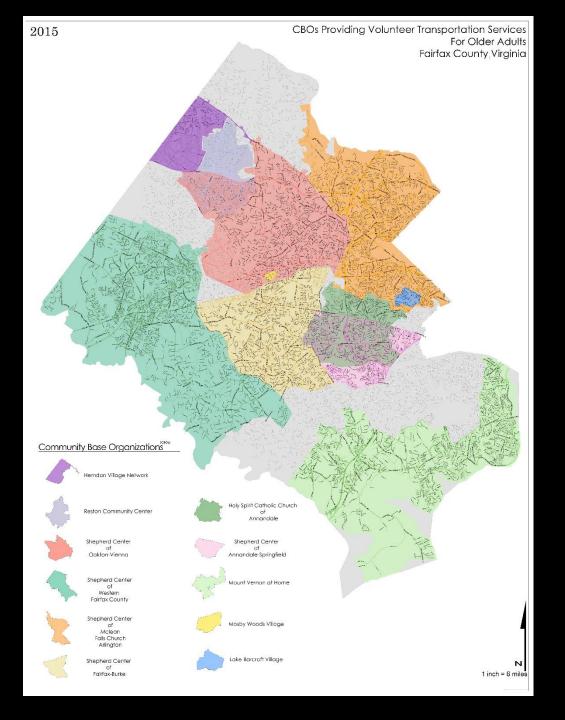


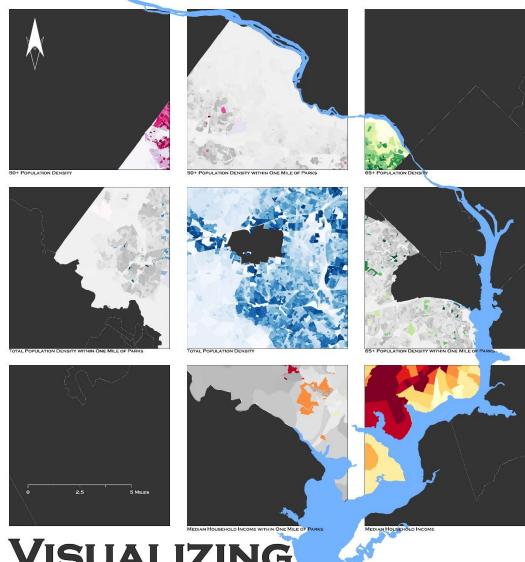




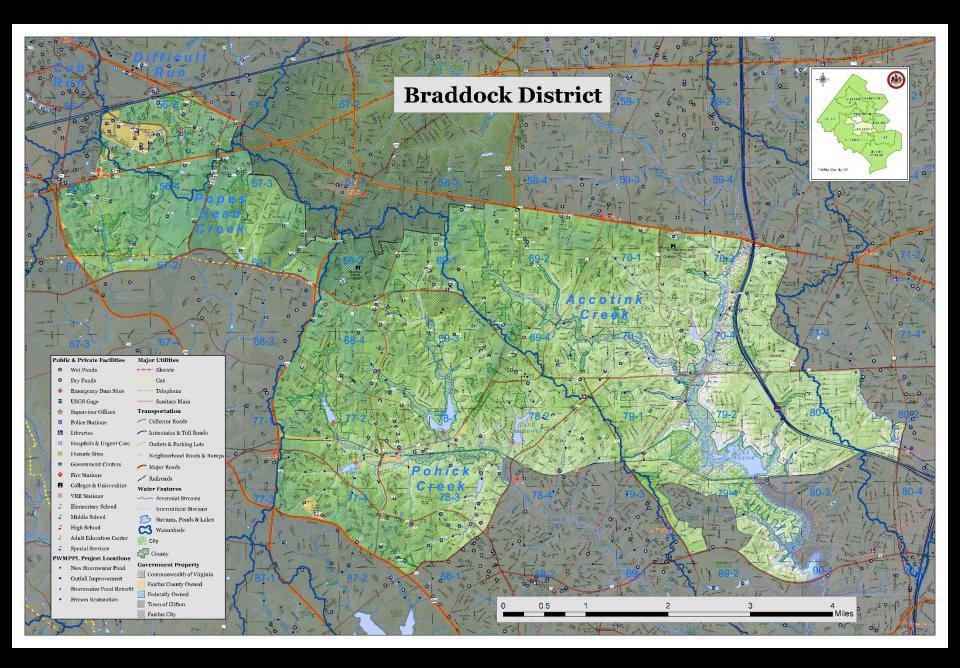


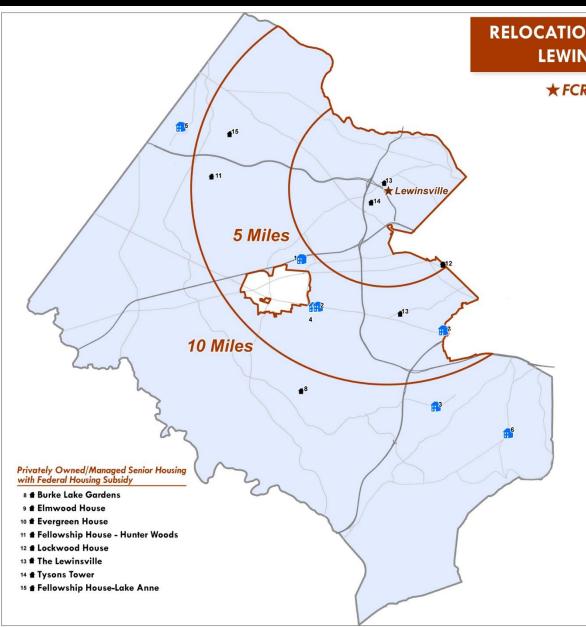






VISUALIZING
DEMOGRAPHIC DATA
FOR SITE ANALYSIS





RELOCATION OPTIONS FOR RESIDENTS OF LEWINSVILLE SENIOR HOUSING

★ FCRHA Rental Program - Lewinsville Senior Housing

FCRHA Rental Program - Senior Housing















FAIRFAX CONNECTOR STUDENT RIDERSHIP (08/31-10/11 2015) Fairfax Connector Student Ridership **COUNTY OF FAIRFAX** Fairfax County Public Schools Aug 31 - Oct 11, 2015 Free Student Bus Pass Total Ridership: 8,728 For Fairfax Connector This pass permits the student from the above school to ride Fairfax Connector for Week2 Week3 Week4 free from 6 a.m. to 8 p.m., Monday-Friday. **Top 10 Fairfax Connector Routes** Ridership Student Ridership by Time of Day 2000 1500 1000 Student Ridership by Division at the transfer of the transfe From August 2015, Fairfax County Department of Transportation started the Student Free Fare Program, which provides free trips on started the Student Free Fale Program, which provides free trips on Fairfax Conenctor buses to Fairfax County high school and middle school students. The goal of this program is to encourage increased student and youth riderhap on public transit services in Fairfax County. Six school outreach events were conducted in August and September 2015 to help promote this program, which include: South Lakes High School Student Ridership with Free Bus Fare - Chantilly High School Madison High School Mt Vernon High School Student Ridership - Edison High School - Herndon High School 1 - 50 From August 31 to October 11, 2015, the total student ridership has 51 - 200 risen up to 8,728, and the top 10 bus routes with higher student ridership are: 551, 310, 109, 171, RIBS1/2/3, 101, 151, and 950. 201 - 1509 which primarly serve Herndon and Reston, Mt. Vernon areas. High School Outreach Events



WPFG Orienteering Maps of George Mason University

During summer 2015, the World Police and Fire Games (WPFG) was held in Fairfax, VA, and neighboring jurisdictions. Orienteering was one of over 60 sports.

Orienteering is a cross country running event where competitors must navigate unfamiliar terrain using only a map provided by the organizers and a compass. Check points, called controls, must be "punched" by the competitor in sequential order. Starts are staggered so competitors cannot follow each other. The event requires mental acuity while under physical duress. For a world championship event, the map and courses must be of the highest standards and meet international rules and specifications.

- International Specifications for Sprint Orienteering Maps
- Competition Rules for IOF Foot Orienteering Events



The profile for the Sprint Orienteering Competition at George Mason University (GMU) is high speed in order to test the athletes' ability to read and translate the map in complex environments, and to plan and carry out route choices running at high speed. The course must be planned so that the element of speed is maintained throughout the race. The course may require climbing but steepness forcing the competitors to walk should be avoided. Finding the controls should not be the challenge; rather the ability to choose and complete the best route to them. The course should be set to require the athletes' full concentration throughout the race.

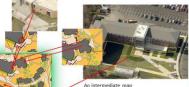
Keg Good, the event coordinator and course setter worked iteratively with the sprint vetting team over 6 months to review control placement, refine the map, test a variety of route choices, and determine the likely wining times for world championship athletes.

The Map

The initial buildings and parking lot outlines were added to contours developed from Lidar data processed by Greg Lennon of Red Arrow Maps. Together these formed the base map used for field checking and adding all the details. Tom Strat. a volunteer mapper, walked over the terrain field checking and adding details such as vegetation, and other objects and shifting features as needed to clarify. Field check notes were converted into digital form using OCAD, an orienteering cartography software. The OCAD map was then loaded into CONDES, course planning software, for all over-printing (course drawing, control descriptions, course leg lengths, graphic objects, layout, scaling,

The map was carefully reviewed for accuracy and clearness for anywhere that a competitor was likely to traverse. Major and minor tweaks were coordinated and evaluated by the course setter and then sent back to the mapper via email. This kept only two people involved with all map changes. Meanwhile George Mason University was still building buildings, driveways, parking lots, athletic areas, adding landscaping and planting trees. The latest Pictometry data along with the dormitory floor plans were a big help in visualizing exterior building nooks. Just before the WPFG event, the course setter walked over all parts of the map, rechecking for last minute changes. The final change affecting courses occurred less than 24 hours before the starting time when road repaying necessitated an additional outModel Map: This is a practice course that lets competitors check out the quality of the map and course and how the set up will be arranged. Athletes may spend as much time as they wish in the model area. Also included on the same sheet is a campus map produced by GMU and a travel map produced using ArcMap and Fairfax County's GIS data

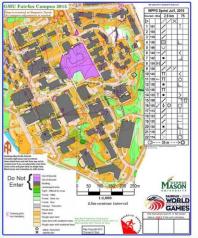




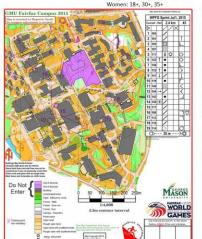
and some field notes, including Pictometry



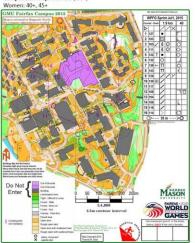
Competition Map: Men 18+, 30+, 35+







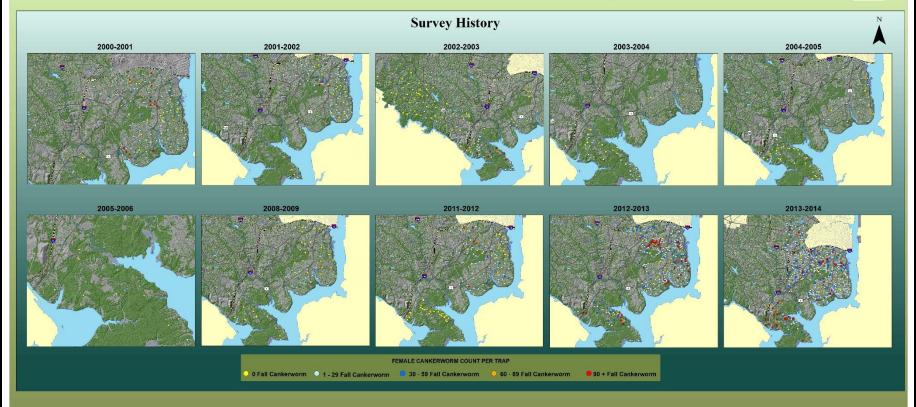
Competition Map: Men 50+, 55+,





Fall Cankerworm in Fairfax County





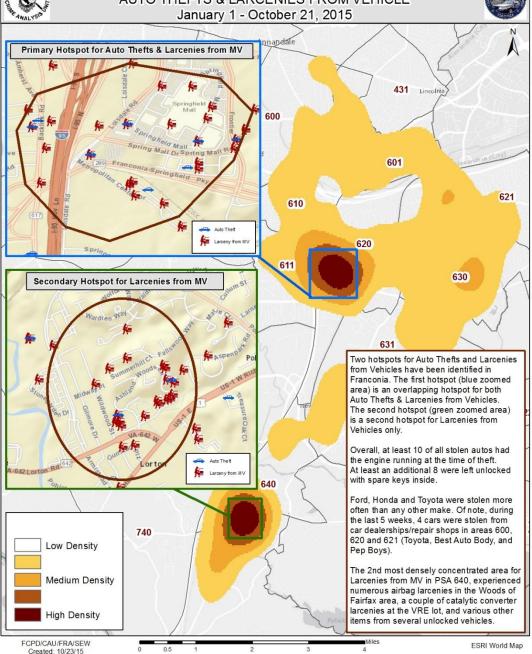


SPRAY AREAS DETERMINED BY ANNUAL CANKERWORM TRAP COUNTS

CRIME ANALYSIS

FRANCONIA DISTRICT AUTO THEFTS & LARCENIES FROM VEHICLE









Fairfax County Deer Management - A Web Mapping Application

Fairfax County Park Authority & Fairfax County Police Department

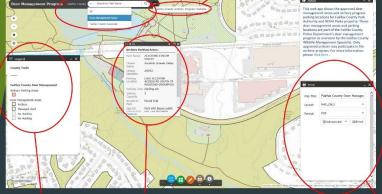


From paper forms and maps, to a sleek and easy-to-use application



New Web Mapping Application

Examples of old documents provided to the Hunters Search by Park Name Link to Program Website



View on a tablet (iPad)

Legend Detailed Attributes for each Layer

Create a PDF to Print

Use device GPS to verify boundaries

Public Feedback

"The maps looks awesome and is very helpful. Nice work to everyone involved!!!!"

"You have done a great job on the maps."

Visit the Fairfax County Geoportal http://www.fairfaxcounty.gov/ma ps/geoportal.htm







View on a phone (iPhone)

Change the basemaps

By Park Authority Staff (J. Roberson, K. Sinclair & K. Auer) and Police Dept. Staff (K. Edwards & E. Powelli

Background

The Fairfax County Deer Management Program is implemented each year to manage the abundant local white-tailed deer population (Odocoileus virginianus). The primary objective of the Fairfax County Deer Management Program is deer population control on public parklands. Management actions reflect a variety of interests: protecting human health and safety, reducing environmental damage, conserving biodiversity and maintaining healthy deer herds. The program is implemented by the Fairfax County Police Department (FCPD) in collaboration with the Fairfax County Park Authority (FCPA) and Northern Virginia Regional Park Authority (NVRPA).

Archery is the primary deer management tool used in Fairfax County to help manage high density deer herds. Archery has been shown to be a safe and effective deer management tool to control deer populations on public lands in Fairfax County and other high-density jurisdictions. Qualified bowhunters with superior skill, ethics, and experience are able to efficiently and discreetly hunt deer in areas where firearm use is restricted or prohibited, or not an effective or sustainable deer management tool.

Problem

As the archery program has expanded over time, it has become increasing difficult to effectively communicate the locations of approved hunting and parking areas on FCPA and NVRPA property. FCPD and FCPA staff received many requests in regards to very specific locations:

"Is the gravel parking lot off of Poplar Tree road an approved parking location?"

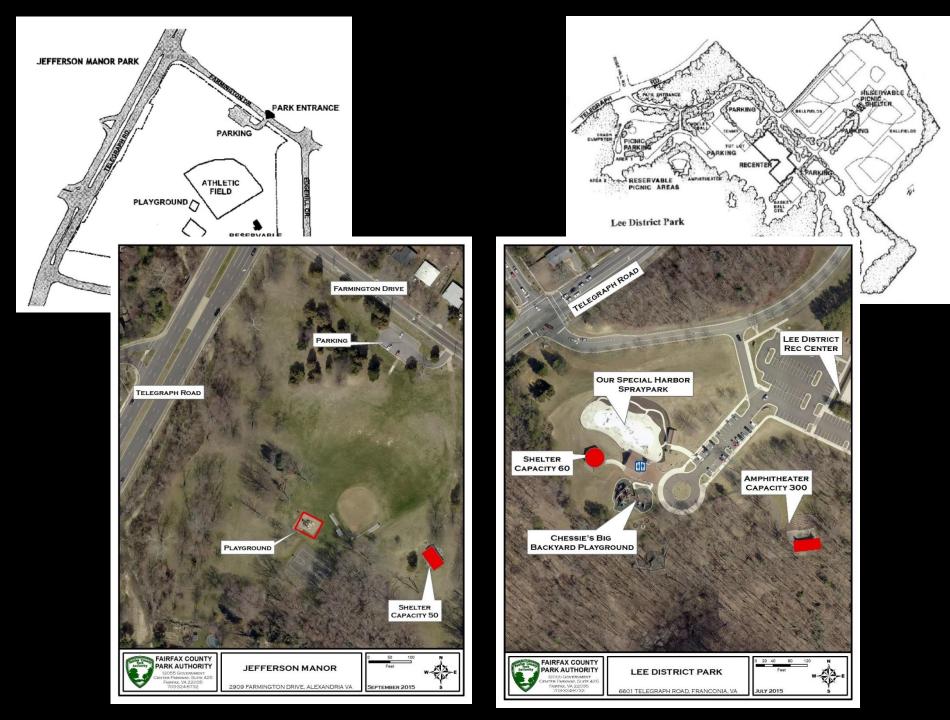
"Is the Northeastern section of Rocky Run Stream Valley near Stringfellow Road an approved hunting location?"

"Can we park at old man Johnson's driveway and then enter the park?"

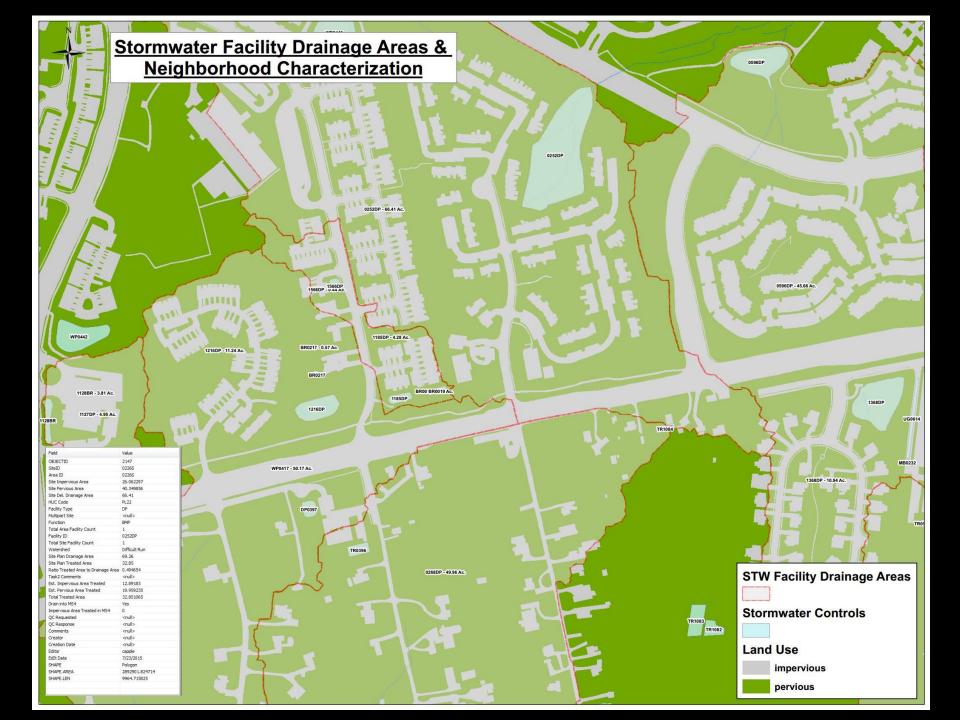
Solution

In order to reduce the staff time required to answer these questions, we determined a new web mapping application was the best approach to effectively communicate archery information to the public. We created GIS data where none had previously existing based off of the old paper forms and maps. The approved hunting areas and the approved parking areas data are managed through the county's enterprise geodatabase and served up using ArcGIS Server. When FCPD and FCPA staff need to make an adjustment to an area, they can easily update the data and the change is immediately reflected in the public facing web application. The web application works on desktops and mobile devices, allowing for reference while in the field, which is a great feature for the hunters.

Deer Management Web App





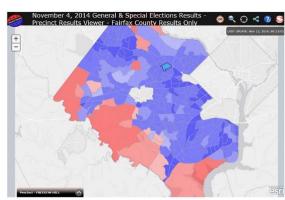


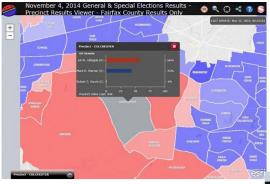
Election Results Viewer

The Election Results Viewer is a configuration of ArcGIS and a JavaScript application that provides election results information to the general public and other interested parties in their community from a smartphone, tablet and desktop computer. The Election Results Map was piloted in the November 4, 2014 General & Special Elections and was a huge success. In addition, this map allowed for the capture of historical election results for which there are five elections with this mapping solution available on the web to date. As a result of this innovative use of web technology, the Elections Results Map is now required for all future elections.

The Election Night Results Map link for the November 2014 election is:

http://www.fairfaxcounty.gov/gis/ElectionsResults2014





This multi-functional map displays leading candidates by precinct, based on unofficial election results obtained from a spreadsheet that Elections' staff updates throughout election night. Being able to visualize these results on a map as they are coming in on Election Night provides for timely Elections Results information to the public. The map shows which precincts have more competitive versus less competitive races by the intensity of color on the map; and vote counts can be viewed at the precinct level and for county-wide races. As a result of this innovative use of web technology, the Elections Results Map is now required for all future elections.

Historical election results maps portal: http://www.fairfaxcounty.gov/maps/elections_portal.htm



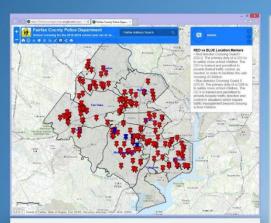
Available on Mobile



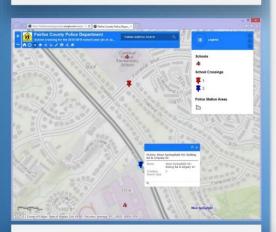


Fairfax County Police School Crossing Guard Web Application



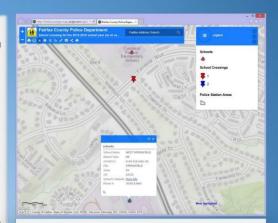


County wide view broken up by the 8 different police station area. School crossing locations are identified by either a red or blue push pin. Red push pins represents Crossing Guard skill level I while the Blue push pins represents Crossing Guard skill level II. The menu bar allows the user to search by address, Change basemaps, Turn on and off layers, measure, print and share the map with others web base apps.



More data can be obtained from the map when each icon is clicked on. Each pushpin will return the school names it's associated with and the crossing guard type. In addition is the user clicks within the map the Police Station area will be returned.

Online school crossing map was made for Colonel Edwin C. Roessler Jr's community announcement. Fairfax **County Police Department** in partnership with our great community, Fairfax **County Public Schools** (FCPS), and the Virginia Department of Transportation, began a process to prepare for the start of the school in the fall. Our mutual goal was to provide education to the community and continue to provide for the children, pedestrians and commuters to and from the schools. To ensure safe crossing and efficient vehicle traffic flow, re-trained and upgraded crossing guards were positioned at key intersections. This map allows the community members to locate their child's school and identify the safe crossing location. In addition, the map includes information about the schools and gives the user the ability to view the school's website for more information.



Information about the schools near the crossing guard's location can be obtained by clicking on the school icon. The school name, Type, Address, phone number and a hyperlink to the schools website is displayed with the window.



Additional information about the school can be gained from school's website, which can be accessed directly through the application. A new window opens up so the user can continue to use the map while viewing the school's website





Fairfax County Department of Planning & Zoning Sharing Information through GIS

