This award is intended to showcase the power of GIS tools in creating accurate, instructive, and visually-pleasing printed maps. The map must have been or plan to be used for Fairfax County business, and an original design is required.

Criteria used to evaluate the entries include:

• clarity of purpose and intent
• the use of GIS tools, methods, and operations to go beyond basic cartography
• visual balance and appeal
• inclusion of necessary map elements and conventions
• quality control for typos or other errors
Fairfax County 2021 Fire and Rescue Reference Map

Department of Information Technology
Daniel Cabrera, Eric Fisher (FRD), Katherine Good (FRD), John Hanke (FRD), John Morrison (FRD)
GIS Excellence Awards 2021
Cartographic Product or Presentation

Fairfax Hydrology

Department of Information Technology
Chip Galloway
Hidden Oaks Nature Center’s Nature Scorecard

GIS Excellence Awards 2021
Cartographic Product or Presentation

ANNANDALE PARK

Park Authority
Fariss Agatone, Suzanne Holland
Service Delivery Analysis - Streetlight LED Conversions

Department of Public Works and Environmental Services
Director's Office
Yeoanny Venetsanos
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; use of tools, scripting, model-builder, etc.
• ingenuity/creativity/originality of GIS methods used
• project benefits to a team or department
• effective demonstration of the information and insight gained (e.g., diagrams, maps, presentations, report, text)
Promoting Equitable Outcomes

While the pandemic has impacted the entire County, it has disproportionately impacted low-income families, communities of color, and other financially disadvantaged populations, and has exacerbated systemic health and economic inequities. Low-income and socially vulnerable communities have experienced the most severe health impacts. The Fiscal Recovery Fund is specifically intended to help address those disproportionately impacted by the COVID-19 pandemic.

Under the U.S. Department of Treasury’s Interim Final Rule, the County may identify a disproportionately impacted population and communities using either the U.S. Department of Housing and Urban Development (HUD) Qualified Census Tracts (QCTs) or “other households, businesses, and populations disproportionately impacted by the COVID-19 public health emergency.” Due to limitations with the QCTs, the County has opted to define those populations, households, and geographic areas that have been disproportionately impacted by the pandemic. The County has developed an ARPA COVID-19 Recovery Index to show which areas of the County are disproportionately impacted by COVID-19 and where to target resources for recovery.

Fairfax County ARPA COVID-19 Recovery Index

The Fairfax County ARPA COVID-19 Recovery Index (Recovery Index) includes data from three areas individually and as a composite index by Census tract. They are as follows:

1. Fairfax County ARPA COVID-19 Vulnerability Index

   The ARPA COVID-19 Vulnerability Index helps us understand which areas of the county are vulnerable to COVID-19 due to factors such as poverty, crowding, and job type. The Fairfax County COVID-19 Vulnerability Index is based on the Centers for Disease Control and Prevention’s Social Vulnerability Index. The ARPA version of the Fairfax County COVID-19 Vulnerability Index has 12 indicators; the original COVID-19 Vulnerability Index developed in May 2020 had 21 indicators. These 12 indicators were chosen due to their focus on the economic impacts of COVID-19. Individual indicators were ranked into 5 classes using normal breaks and given a score of 1 to 5, with 5 being the most vulnerable. The individual indicators were combined, using equal weighting, to create the ARPA COVID-19 Vulnerability Index. The data sources are the American Community Survey 2013-2019 and the Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System.

2. COVID-19 Cases in Fairfax County

   Cases of COVID-19 by Census tract in the Fairfax Health District as of July 2021. The source is the Virginia Electronic Disease Surveillance System.

3. Estimated Low-Income Job Loss (Where Low-Income Jobs Are Being Lost to COVID-19 from the Urban Institute)

   According to the Urban Institute, the neighborhoods hardest hit by COVID-19 job losses are home to workers in industries like tourism and transportation. Urban Institute estimates how many low-income jobs have been lost by workers living in each Census tract or are at risk when stay-at-home orders are in place. Please note that these numbers are estimates. The Urban Institute recommends interpreting the results as relative job loss levels, which can be used to inform investments that alleviate some of the economic burden in hard-hit neighborhoods. Read more about the methodology used at Where Low-Income Jobs Are Being Lost to COVID-19 (Urban Institute). Data from August 6, 2021 was used.

   Individual indicators were ranked into 5 classes using natural breaks and given a score of 1 to 5, with 5 being the most impacted. The overall ARPA COVID-19 Recovery Index was created using the three sub-indices (Fairfax County ARPA COVID-19 Vulnerability Index, COVID-19 Cases in Fairfax County, and Estimated Low-Income Job Loss) and applying the following weighting:

   - 50 percent – Fairfax County ARPA COVID-19 Vulnerability Index
   - 33 percent – COVID-19 Cases in Fairfax County
   - 17 percent – Estimated Low-Income Job Loss

Recovery Index In-Action

The areas shaded in blue in the map to the right show the areas of the County that have been defined as those disproportionately impacted by the COVID-19 pandemic. Programs will be designed to target both businesses and households in the Recovery Index. These disproportionately impacted populations and communities will be prioritized wherever possible.
Arleigh Burke Pavilion
Employee Density Analysis

Use of GIS for Analysis

Department of Transportation
Thomas Wampler, Marcus Moore
Census Tract Level Index: Identifying Areas of Concern for COVID-19 Disease and Vaccination

Amanda Burton, MPH; Jennifer Brophy, ScM; Ben Klekamp, MIS; Rene Najera, DrPH
Fairfax County Health Department - Division of Epidemiology & Population Health

Introduction
- COVID-19 risk differs among population and geographic areas. Targeting appropriate measures to areas of greatest need maximizes disease prevention.
- Previously, targeted outreach and intervention was based on ZIP code-level analysis of COVID-19 cases and vaccination coverage.
- Given substantial heterogeneity within ZIP codes, analysis of smaller units, such as census tracts, was necessary to identify hot spots.
- Moreover, this approach has been utilized to identify areas with higher rates of vaccination and vaccination rates that are lower than expected.

Methods
- We performed analysis and geographic visualizations using ESRI ArcGIS Pro (v10.12.3).
- We supplemented COVID-19 case and testing data obtained from August 15, 2021 through September 15, 2021, from the Virginia Electronic Disease Surveillance System (VEDSS) and linked them to census tracts. We then calculated case and testing rates per 10,000 residents by census tract using data from the previous four-week period to identify recent disease and testing trends.
- We calculated vaccination coverage among those aged 12 to 65 years by census tract using data from the Virginia Immunization Information System (VIIS). All individuals who were vaccinated were identified at the first dose observed. The vaccination data from persons aged 65 years and older were obtained from the National Immunization Survey-Adult (NIS-Adult) data.
- We calculated 2-week rates for cases, vaccination rates, and testing rates by census tract using the Census Tract Level Index as the highest index values to determine which tracts have a higher risk of transmission.

Index = \( Z_{\text{rate}} + (-1)Z_{\text{vaccination}} + (-1)Z_{\text{testing}} \)

- We visualized our index with higher values (warmer tones, see Index by Census Tract) indicating areas of greater concern (i.e., higher case rates, fewer vaccine rates, and lower rates of testing).
- The resulting index ranged from 0 to 100 with higher values in the southern region of the health district.
- The census tracts of concern identified by the index were areas of the health district where repeated outreach efforts had not been effectively targeted.
- These tracts also had higher proportions of individuals from racial and ethnic groups that have experienced higher burdens of COVID-19 disease such as African American and Hispanic populations.
- We shared the index visualizations with outreach teams as an interactive reef view along with a detailed report including driving factors and specific vaccination recommendations for vaccine providers, vaccination teams, and testing teams.

Results
- The resulting index ranged from 0 to 100 with higher values in the southern region of the health district.
- The census tracts of concern identified by the index were areas identified by health district staff as requiring repeated outreach efforts that had not been effectively targeted. These tracts also had higher proportions of individuals from racial and ethnic groups that have experienced higher burdens of COVID-19 disease such as African American and Hispanic populations.
- We shared the index visualizations with outreach teams as an interactive reef view along with a detailed report including driving factors and specific vaccination recommendations for vaccination, vaccine providers, and testing teams.

Conclusions
- This index allowed for rapid objective selection of target areas. Data on vaccination rates, testing rates, and case rates were supplemented and used to create a geographic visual representation of the COVID-19 pandemic trends.
- This interactive tool facilitated data-driven outreach efforts in areas where hospitalization rates were higher than expected.
- The index has been utilized by health district staff to identify areas requiring targeted outreach and intervention.
Continuity of Immature Mosquito Operations during the COVID-19 Pandemic

Using historic inspection records to prioritize sites for inspection and maximize efforts towards West Nile Virus prevention during staffing reductions due to the COVID-19 pandemic

Objective:
Determine mobile inspection software to track inspection and education efforts during critical phases of immature mosquito operations.
Flood Prone Areas

Over 250,000 Fairfax County parcels have gone through a selection process and applied a score based on its location or proximity to a potential flood hazard. The 13 criteria outlined below can earn each parcel a score of 1-5, with a total maximum score of 50. The resulting layer may aid in predicting or mitigating future flood-prone areas.

- Close to a river or stream
- Flood plain
- Low-lying area
- History of flooding
- High water table
- Slope of the area
-Geological hazards
- Erosion
-Subdivision age older than 1971
- Subdivision built before proper regulations
- Subdivisions without drainage facilities
- Subdivisions affected by flood insurance

Department of Public Works and Environmental Services
Director’s Office
Chip Galloway, Catherine Torgersen (SWM), Saurabh Raje (SWM), Matthew Meyers (CEX)
Use of ArcGIS 3D Analyst and the Fairfax County 2009 Digital Elevation Model for Walkway Preliminary Engineering Design

Culverts engineers use diagrams called cross sections to survey existing topography and proposed grading designs. These require land surveys that can be expensive. At the preliminary engineering design phase of a walkway project, existing conditions and proposed grading designs are only feasible using contour maps, field visits, and verbal descriptions.

One way to get more detailed grading designs at the preliminary engineering design stage is to use ArcGIS 3D Analyst and the Fairfax County 2009 Digital Elevation Model.

Cross sections can be created using the "Profile" tool. Profile graphics can be imported into Microsoft Publisher and edited to show proposed cut and fill profiles.

Department of Transportation
Daniel Stevens
Utilizing ArcGIS to Analyze Wireless Call Transfers from Fairfax County

Department of Public Safety Communications
Raleigh Maier, Timothy Menda
Vulnerability Index (V8) Applications

Background
The Fairfax County Vulnerability Index (V8), shown on the right, was created in 2020 to show areas of the county that have the highest levels of vulnerability based on race, language, income, education, housing, transportation, and health insurance. Vulnerabilities are factors which put a population or area at risk and affect its capacity for resilience when confronted by storms and extremes.

Fairfax County Park Authority (FCPA)
FCPA used the V8 in completed project reports to indicate where FCPA is achieving equity goals to know that FCPA is making a difference in parts of the county that are typically underserved or have unreliable access to parks and open spaces. This gives FCPA an indication of how we are meeting our goals.
The V8 has also been added to the FCPA work plan to indicate how FCPA is meeting One Fairfax equity goals by distributing FCPA investment of financial resources and staff time across the county and specifically targeting investments in underserved areas through planning the FCPA annual work plan.
The FCPA Planning and Development Division is working to incorporate the V8 values into their Trail Development Strategy Plan (TDS) prior to the 2024 bond election. The TDS has historically included the following set of criteria used by staff to evaluate potential trail projects for development: connectivity, service level, stakeholder interest, environmental impact, technical challenge, initial cost, social acceptability, and maintenance cost. In the future, the V8 values will be added to this list so that staff can identify and recommend a list of trail projects for funding by also taking equity into consideration.

Department of Public Works and Environmental Services (DPWES)
DPWES has used the V8 to inform decisions across the department including tree planting, flooding, Fire, Oil and Grease (FOG) outreach, and LED conversion streetlight program.
In the map on the left, an analysis was performed to determine areas of low canopy coverage and high vulnerability. Twenty-four census tracts were identified as high impact service opportunity tracts.
An analysis of flooding complaints and the V8 was performed to determine tracts with a high number of flooding complaints per population and highly vulnerable.
The V8 was also used to determine underserved subsidies for stormwater efforts around proper disposal of FOG (Grease cooking oil).
Finally, the V8 was used to analyze how many LED conversion projects occurred in the different V8 classes, shown in the map on the right.

Office of the County Executive
Katherine Miga, Fariss Agatone (FCPA), Yeoanny Venetsanos (DPWES-DO)
This award is intended to showcase the ever-increasing presence of GIS web applications. These applications are a significant foundation for bringing maps, geospatial data, and analysis/data collection tools to a varied audience of County staff and residents.

Criteria used to evaluate the entries include:

- effectiveness of the web application in meeting stated purpose
- benefit to the public and/or agency
- incorporation of application into business practices
- aesthetics and ease of use
- use of well-thought-out cartography
- inclusion of innovative and unique tools
Assessing Commercial Apartments

Appraisers are required to review sales to apply the Sales Approach when deriving assessment values. Web Apps are a perfect platform to analyze sales data.

Map Symbology
Converting polygons to points (as done here with parcels) removes some of the noise of parcel size and shape and allows appraisers to focus on the location. It also allows for the use of proportional symbols giving appraisers a visual representation of a unit of comparison they typically use (price per unit) and keeping the map simple and easy to interpret.

Providing Tools for Analysis
Keeping the app simple is important, but so is providing all the necessary tools. Appraisers must analyze the location of a parcel and determine how that location affects its value. NEAR ME is a great tool for determining proximity to value affecting amenities, such as Metro Stations. Additionally, adding filters allow appraisers to search for key data such as average rent or square footage.

Using Published Layers
Commercial Parcel Plus, Aerial Imagery and Tax Neighborhoods provide additional up-to-date data and allow for flexibility in searching. The Add Data widget allows appraisers to add additional layers published through our organization.
Contour Extraction Tool

Many residents in the GIS Division's web audience interested in getting data for their own use. Topographic data is one of the most requested datasets and contour lines have been at the top of the list. Delivery of the data has been relatively challenging in the past as the number of contour lines has increased significantly as better data has become available. To keep up, the GIS Division released a new application. The new Contour Extraction Tool (CET) was designed to make it easier for residents to access the data they need from a user-friendly interface. Since its release, the number of email requests for contours has decreased dramatically.

This public application allows users to download elevation contours for the area shown in the map extent. The size of the download area is limited by the scale of the map and is intended to accommodate several submissions at any one time. The process ensures a higher resolution dataset from being produced, keeping processing time to a minimum.

Users can select from multiple formats (e.g., shp, gdb, dxf) of the contours to support a wide range of use cases. The tool will download the same data visible in the map at the time the tool was run. The latest version includes a 3D view, enabling users to see the contours in relation to the terrain they are exploring.

Selected by Greg Bacon
GIS & Mapping Services Division

Department of Information Technology
Gregory Bacon
Eviction Prevention Dashboard

The first court action in the eviction process is when a landlord files an unlawful detainer (UD) in General District Court. In general terms, this action may be called an eviction filing but is not an eviction.

A landlord may choose to have Fairfax County Sheriff’s Office (FCSO) deputies deliver the UD notice to the tenant or they may employ a private process server.

Data related to private
Eviction Data

Data current through November 12, 2021

Filter by Supervisor District
ALL

Filter by Census Tract
ALL

Filter by Year
ALL

Filter by Month/Year
ALL

Understand the Eviction Process

Evictions Issued
874

Data related to
Evictions by Month

Unclean Detainers Issued
1,964

Data related to
Evictions by Location

Writs of Eviction Issued by Location

Writs of Eviction Issued Monthly

County of Prince William, Fairfax County, VA. VITA, Esri, HERE, Garmin, GeoGraph, METEONASA, USD, EPA. Rendered by Esri

GIS Excellence Awards 2021
Web Application

Department of Management and Budget
Terry Reardon, Stephannie Calderon Yanez (DIT)
GIS Excellence Awards 2021
Web Application

Fairfax County Police 2021 Recruitment Campaign

Police Department
Jeffrey Gallagher, Joe Davis, Veva Wallace, Tammy Russell, Tajwaar Beaufort
Locating New Public Urban Parks in Reston

Reston Park Monitoring
Proffered Urban Parks in the Reston Transit Station Areas

Fairfax County, Virginia
September 7, 2021

Park Authority
Jasmin Kim, Daniel White (DPD), Justin Roberson
Major Wastewater Asset Survey for the Wastewater Utility Master Plan

ArcGIS Field Maps gives us a significantly improved field productivity and decreases post-processing time.

Over the years, Land Survey Branch blended new technology into processes in use for 50+ years. Hybrid processes evolved and were dependent on separate systems for gathering and storing separate information streams. Land Survey Branch field crews were struggling with the missing hybrid process and technology limitations. They needed a solution that combined multiple types of information in one platform.

In September 2021, we began using ArcGIS Field Maps as a repository and sharing space for a county-wide inspection and as-built of almost 800 sanitary sewer features.

Capital Facilities
Public Drainage Basin Delineation Tool

Web Application

Land Development Services
Brett Martin
Reston Zoning Activity Hub

Department of Planning and Development
Daniel White, Beth Elliott, Suzianne Battista
**Summary**

There are four key widgets in the Park Register – Filter by Area, Layer List, Advanced Filtering, and Inventory Counts. The Filter by Area widget applies the filter to the map layers, inventory counts, and attribute tables. The Inventory Counts widget displays the total count of features for nearly every feature class within the application. As shown in the screenshots below, each layer in the Inventory Counts widget opens to display all feature types for that layer. Following, each feature type opens to display each record within.

**Data Standards**

The Park Register application utilizes a feature service that references the county's enterprise geodatabase. As such, any updates that are made to the data are immediately displayed in the Park Register. With indicated staff, data updates are applied regularly. Additionally, all symbology and labeling have been standardized across County – within the Park Register GEM, JADE, and the Cubicaster. This consistency, with all data coming from the enterprise geodatabase, ensures that users experience a consistent experience across all County applications. As time goes on, the Park Register will continue to expand, both in available datasets and included functionality.

**What Can the Park Register Do For You? Find Out for Yourself!**

"THE PARK REGISTER" WEB APPLICATION

After decades, the Park Register has evolved. The Park Authority’s Park Register is now a Web AppBuilder application, configured in the Fairless County Enterprise GIS Portal. Still serving as the Park Authority’s source of inventory, all authoritative inventory GIS data is available in the Register, along with frequently used other Countywide datasets – Parcel and the Vulnerability Index. While available to all County staff, the Register is designed specifically for Park Authority needs.

This application increases accessibility to our authoritative GIS resources and includes convenient features such as search, filter, and export the information. Metrics are generated automatically and filtering can be done using the "Filter By Area" widget. Data is formatted by the Park Rangers, Supervisor District, Planning District, or Maintenance area. All data and GEM remain incredibly resources. The Park Register provides a customized Park Authority experience, yielding accurate information for decision-making.

**FCPA Tradition**

The Park Register has been serving the Park Authority in different forms for decades. Park, the Register was managed as a paper book, which was printed annually and distributed. Each park had one record per park, but now the data could be more easily updated and managed.

**2021 Web Application Category**

[Scan QR Code]

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**Park Authority**

Fariss Agatone, Justin Roberson, Andrew DeLuca, Lynne Johnson
This award is presented to the agency that best utilizes GIS to serve the public with map documents, customer service operations, press relations, or public events.

Criteria used to evaluate the entries include:

- effectiveness of the GIS work to the outreach effort
- degree to which a difficult message was clearly communicated
- complexity of cartography, data analysis, customization and/or programming
- adaptability to future expansion/modification
- contribution of GIS as a planning tool for the outreach effort
COVID-19 Vaccination & Health Equity: Directing Outreach Resources to High Value Opportunities

Fairfax County Health Department
Division of Epidemiology & Population Health

What is the Problem?
- First identified in 2019, a novel coronavirus (SARS-CoV-2) has caused a global pandemic.
- As more infected persons, Outbreaks in communities, large urban centers, and respiratory illness. However, for persons of older with a compromised immune system or underlying conditions (e.g., diabetes, chronic lung disease or respiratory disease), severe illness is more likely to develop and may cause death.

Where Should We Focus Resources?
- Fairfax County residents 65 years and older are disproportionately affected by COVID-19, but some groups have been more impacted than others. Those living in rural areas, and many minority groups. While absolute case counts, however, the rate of decline among Hispanics is more than three times that of non-Hispanic Whites.

Use of GIS for Public Outreach

GIS Excellence Awards 2021
Use of GIS for Public Outreach

COVID-19 Vaccination & Health Equity: Directing Outreach Resources to High Value Opportunities

Heath Department
Benjamin Klekamp, Amanda Burton, Jennifer Brophy
Drug Disposal Dropbox Locator

Community Services Board
Ellen Volo, Judy Lamey-Doldorf (DIT), Matthew Miller (DIT)
Fairfax County Police Department’s Voyage Into Citizen Outreach

Jeffrey Gallagher, Kathy Pham, Carolyn Kinney
Tysons Tracker

Monitoring Comprehensive Plan Implementation

About the Site

The Tysons Tracker is an interactive platform providing the same data, analysis, and updates as the former hard-copy Tysons Annual Reports. Feel free to explore the new format and utilize the Tysons Development Map for a look at planning and zoning activities in Tysons. Platform development is ongoing. To receive notifications of platform improvements or new data please sign up for the Tysons listserv.
This award is presented to the agency that has created or refined the most significant spatial data for the County in the last 12 months.

Criteria used to evaluate the entries include:

• significance of the data for the county and/or agency
• importance to agency's long-term business processes
• level of effort required to create/maintain the data
• sophistication of process to create/maintain the data
Department of Animal Sheltering – Growing Our Data to Increase Our Reach

Beginning in late 2019 the Department of Animal Sheltering (DAS) started working with the GIS Division, gathering data to better understand our reach within the county and to identify gaps. In 2020 we developed datasets that enable us to easily find communities that utilize our spay/neuter surgery and vaccine services and Community Rabies Clinics, and those that do not. In 2021 we have been able to grow and refine our use of spatial data to further ensure we are proactively reaching all Fairfax County residents, both under normal operations and, more recently, COVID-driven operations. Working with our Shelter staff and APP to provide consistent intake data for strays along with the addition of Vet Clinics and Virtual Humane Education Tours data, has helped us further expand and target our reach into the community.

Virtual Tours
Prior to COVID we conducted many tours of the shelter each week for Girl Scouts, Boy Scouts, and other organizations for children, enabling them to meet our animals, learn about the animals, and see how we care for them. COVID actually opened up an opportunity for more involvement for children who have not generally participated in these types of programs. Children attending school virtually have shared in “Virtual Tours” of the Fairfax County Animal Shelter. Our Humane Education programs are a great way for teachers to introduce their students to companion animals. Using data that identifies underserved areas in the county we have targeted schools for these “tours.” The response has been overwhelming.

Veterinary Clinics
Fairfax County has 73 Vet Clinics. These Clinics have varying services – some provide care for all types of companion animals, others specialize in just one or two species, some care for large animals, etc. There are also differences in the level of care provided – some are 24/7 while others are only open part of the day. We have gathered data on all of these Clinics and now have a tool to easily determine the closest Clinic that provides the necessary care. This data has been instrumental in identifying areas in the county that can benefit from our Pet Services Events, a program that brings veterinary care to underserved communities.

Enhanced Stray Animal Data
DAS currently has a dataset that includes information about the stray animals that come into our care. Multiple organizations provide information on where the animals were found but the format of the data was not consistent. Working with our own teams and GIS staff we have designed a standard way of reporting the data, resulting in a much more accurate tool. We have started the process to gather another layer of this information to help us better understand which of these animals are reclaimed by their owners. This information will enable us identify gaps in our outreach to the community. For example, do residents know to contact us when their pet is lost, do residents have the means to come to us if their pet is with us, is cost a barrier? We can then reevaluate our marketing, contact methods (email, phone, FB, etc.), and requirements to reclaim.
Locating New Public Urban Parks in Reston

Reston Park Monitoring

Preferred Urban Parks in the Reston Transit Station Areas

Fairfax County, Virginia
September 7, 2021

Park Authority
Jasmin Kim, Daniel White (DPD), Justin Roberson
This award is presented to the agency that has integrated GIS into their operations to the greatest degree in the last 12 months. Agencies that have a long history of GIS, as well as agencies that are in the beginning stages of GIS integration, will be evaluated separately.

Criteria used to evaluate the entries include:

- effectiveness of the integration in meeting its stated goal
- increased use of GIS in the agency, either directly or through agency-generated GIS products
- increased agency efficiency as a result of GIS
- demonstration of significant effort to train staff in GIS
- ingenuity/creativity/originality of GIS methods utilized
- ability to gain insights into data/project/issue as a result of the integration
- potential for further GIS-related growth
2021: A Green Sheet Journey - Streamlining Drainage and Erosion Assistance to Property Owners

Soil and Water Conservation District
Laura Grape, Daniel Schwartz, Gregory Bacon (DIT)
Fairfax County Public Library

Understanding our Unique Communities

Fairfax County Public Library (FCPL) has, over several years, been increasing its use of GIS to improve services for county residents. In the last year in particular, the utilization of interactive GIS tools has been assisting planners and managers in better understanding the unique communities the library serves to provide more targeted resources to residents.

Book Deserts
One priority is understanding where print books and other reading material are hard to obtain, particularly without access to an automobile or other form of transportation. Some researchers have defined book deserts by linking them to poverty and low income, while others use a combination of factors that include census data, income, ethnic or geographic language, and the number of books in a home.

FCPL actively researched the validity of a bookmobile that could offer a possible solution to book deserts and used GIS to better understand where in the County we could provide this service targeting specific areas identified as book deserts.

Demographics
GIS helps the library with programs specifically for seniors or early literacy populations. It also helps us understand where language barriers may exist. We also use it to better serve students, just knowing the number of school age children and teens in a particular library’s service area allows us to target services and resources and reach underserved or vulnerable populations.

Service Area Analysis
A new regional library is in the planning stages and GIS will help us not only define the service area of the new library, but also redefine our other services areas as well. In addition, we recently used GIS to consider a scenario by which an existing branch library might be closed at its current location in favor of relocating to a new site on land where it could be collocated with other County services being considered for the site.

Drive-time analysis reveals gaps in access to library branches

Existing and potential libraries, and service areas

Library branches serve residents lacking internet access

Summary
The library uses GIS to better understand the unique communities we serve and to provide more targeted resources and services to residents.

With the demographic data available, we can even consider the kinds of staff we might look to have working in a specific building. For instance, the library may seek to hire more multilingual staff in order to better serve the community where non-English speakers are in greater numbers.

Diverse populations use libraries in different ways and GIS helps us plan for those unique usage patterns. Understanding these subtle but important differences in the populations we serve is critical to providing services and resources in a more equitable way.

Public Library
Douglas Miller
GIS Trail Assessments

GIS Excellence Awards 2021

GIS Integration

Fairfax County Park Authority Trail Assessments

The Trail Assessment Application is an on-site GIS Capture project built into Fairfax County’s Enterprise GIS Portal. The application is available to Fairfax County staff and Lay Users for use exclusively by Park Authority staff. Using the tool on the application and sharing the site in users’ names, the user can quickly capture point-based data and streams and enter it. Additionally, for the purchased version, the user has the option to capture images for each point.

The users have high accuracy GISNPS receivers from Esri’s Precision Location System to capture high accuracy in well-located locations. Upon collection, each record is a verified point being captured on a real-time basemap. Upon project completion, the data will be available to the agency for analysis and funding allocation.

GIS Trail Assessments

Park Authority

Andrew DeLuca, Fariss Agatone, Justin Roberson, Karen Devor
Locating New Public Urban Parks in Reston

Reston Park Monitoring
Proffered Urban Parks in the Reston Transit Station Areas
Fairfax County, Virginia
September 7, 2021

GIS Excellence Awards 2021
GIS Integration

Park Authority
Jasmin Kim, Daniel White (DPD), Justin Roberson