SECTION 2

STRATEGIC DIRECTIONS

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Fairfax County's technology strategy incorporates a plan for investments at optimal time to keep pace with technological innovations and growing demands for constituent services. This strategy has helped the County address new economic realities, improve communications, foster open government for public engagement, and leveraged the overall technology portfolio and capabilities on an enterprise scale to meet the County's diverse operational needs. The County's technology strategy supports and is aligned with the Nine Priority areas of Fairfax County's countywide Strategic Plan (https://www.fairfaxcounty.gov/strategicplan).

2.1 The Department of Information Technology (DIT)

The Department of Information Technology (DIT) provides leadership, governance, architecture, technical resources, and expertise in development and deployment of information technologies to improve efficiency, effectiveness, and promote innovation. DIT is responsible for establishing technology architecture, implementing systems, applications, communications, and overall management of the County's information assets. DIT is further charged with security and safety of County information systems, networks, and data. Agencies are responsible to adhere to IT policies and standards and coordinate their IT requirements with DIT.

DIT's Mission is to empower the community by leveraging technology to provide innovative, secure, and efficient solutions to support the County's strategic goals. DIT's Vision is to be a reliable, proactive, strategic, and trusted partner delivering solutions with efficiency and implement technology solutions that support major County's strategic priorities, reduce risk, improve operational excellence, and drive innovation to improve future capabilities. In support of its Mission and Vision, DIT's Guiding principles are:

- IT Strategic Alignment
- Enterprise Value Focus
- Customer Centricity
- Innovation
- Engaged and Resilient Workforce
- Strategic Collaboration
- Compliant and Secure

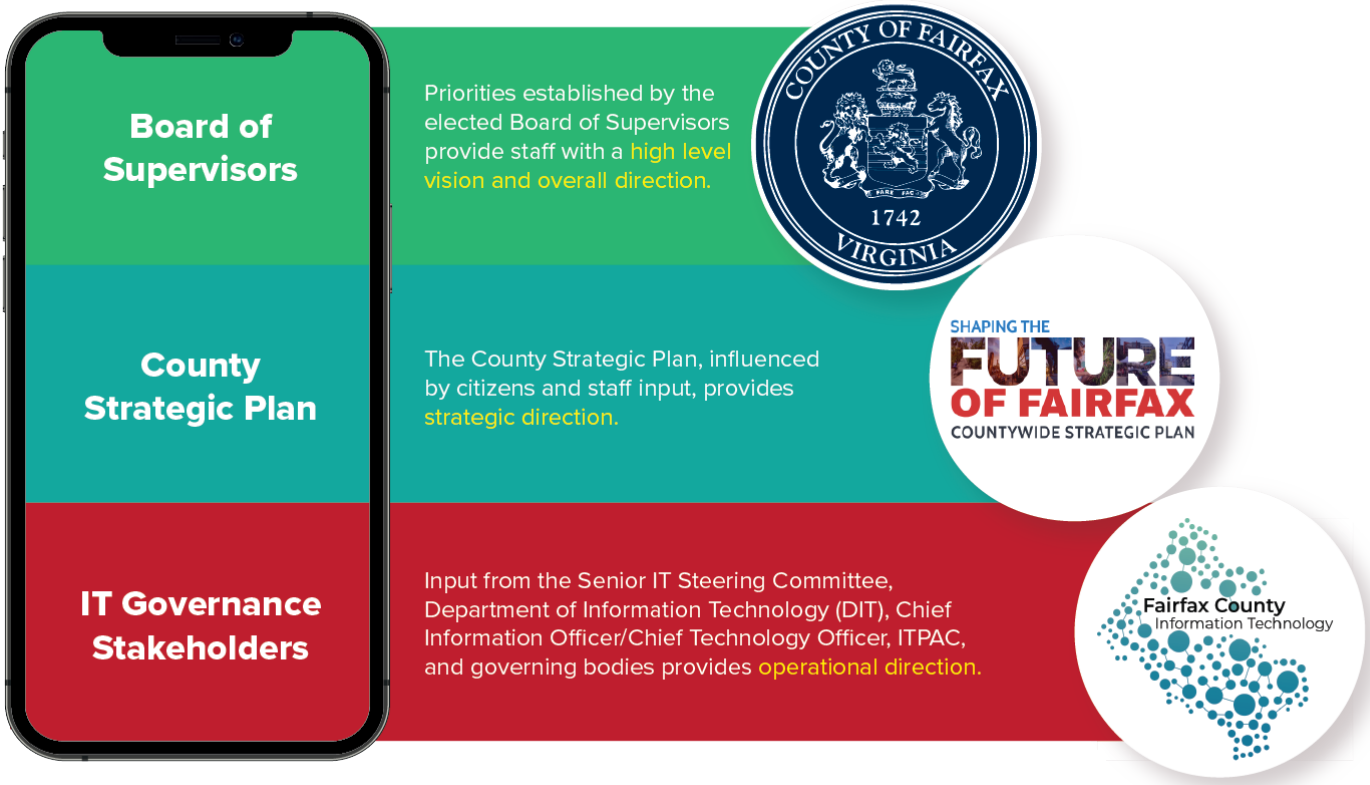
The following five DIT strategic goals are designed to enable Fairfax County's success:

- **Digital Transformation** – Drive end to end innovation that includes people, policies, processes, and technology. It enables the development of new capabilities that improve efficiencies through automation. These efficiencies will be achieved in a secure manner with a focus on improving citizen/government services.
- **Data Management and Business Intelligence** –Leverages data as an asset for continuous improvement and effective decision making by establishing a data stewardship framework that includes standards, governance, privacy, analytics, and open exchange. As the central IT organization, DIT will provide pathways, tools, and expertise to promote data-driven insights and develop evidence-based strategies.
- **Cyber Security** – DIT is dedicated to the protection of its IT assets and the data/information in its charge, as well as ensuring that no unauthorized access or use of such data/information occurs. DIT will continue to maintain a robust and aggressive vulnerability and risk management program to continuously assess and validate the organizations security posture and to ensure compliance with Federal, State and industry regulations and best practices.

- **Cloud Computing** - DIT embraces cloud computing based on business requirements for enabling convenient access via, on-going demand networks to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) they can be rapidly provisioned and deployed with minimal management effort or service provider interactions.
- **Workforce Optimization**- DIT is dedicated to acquiring, developing, and competitively compensating high-performing human capital resources to sustain and enhance Fairfax County's complex IT environment. This will require enhanced resources and long-term commitment.

DIT frequently and proactively reviews its strategy to ensure the plan addresses changes to the County's strategy plans and that stakeholders agree with changes and updates regarding strategic technology initiatives.

Three Key Elements in Guiding IT Within Fairfax County Government



DIT Organization

DIT is organized into IT discipline subject matter expert groups that support enterprise-wide systems and applications. These include **applications that support County agencies' business systems** including revenue systems (Tax), human and health services agencies, land development, public works, zoning, public safety/criminal justice, and general County agencies including the libraries, parks, and facilities management. DIT supports a **multi-channel e-Gov program** for architectural direction, standards, and strategies for the County's website, Intranet, web content management system, and mobile applications. The

e-Gov team works closely with County agencies and the Office of Public Affairs in overall management and execution of web-content and social media.

A specialized **Courtroom Technology** group coordinates the implementation and support of modern courtroom technologies for the three Fairfax County Courts (Circuit, General District, and Juvenile and Domestic Relations), and serves as the liaison with the State Supreme Court for technical solution and data interoperability. The **Public Safety Branch** manages programs and new initiatives that integrate systems in public safety, law enforcement, and emergency management which also addresses homeland security, and regional collaborative and interoperability initiatives and mandates.

The Information Security Office (ISO) reports directly to the Chief Technology Officer and defines and enforces the security standards and policies required to protect the County's information assets and technology infrastructure. Enforcement and compliance authority for ISO is through the County Executive. The **Technology Infrastructure Division** manages server and storage hardware environments, middleware integration tools, communications and network platforms, enterprise messaging applications, desktops and end-user devices, the network based digital multi-function printing devices (MFD) that support County-wide distributed printing, and the IT Service Desk.

The **Policy, Planning and Administration** division provides DIT with administrative, fiscal, human resources and IT policy support functions; and the **Project/Portfolio Management** Office provides compliance oversight and manages the County's IT Investment Portfolio of IT Projects. In the past decade, the **County's Print Shop, Archives and Mail Services** were transferred to DIT to enhance the county's digitization goals and better align with electronic records retention, management, and policy. These functions together with the **Multifunction Device Programs** created DIT's **Document Services Division**.

In 2020-2021, the County faced extraordinary challenges from the COVID-19 Pandemic shutdowns and service disruptions. DIT adapted quickly and implemented necessary technologies for continuity of operations and established a framework for secure employee telework, virtual Board of Supervisors meetings and meetings of the County's various Boards, Authorities and Commissions. DIT also made significant contributions to Health Department's rapid technology mobilization supporting the COVID-19 vaccination program.

The following are some key DIT accomplishments in the last 12 months:

1. Modernized GIS Infrastructure.
2. Launched new Service Oriented Architecture (SOA) GIS portal.
3. Modernized Web infrastructure.
4. Launched new version of the County's mobile application.
5. Launched Enterprise applications to improve organizational efficiencies – such as PLUS Land Development System, Personal Property Tax System, new web-based tax applications, SAP upgrade to HANA.
6. Network upgrades – wireless access points upgrade in County facilities.
7. Data Center fail over initiative.
8. Security Awareness Training.

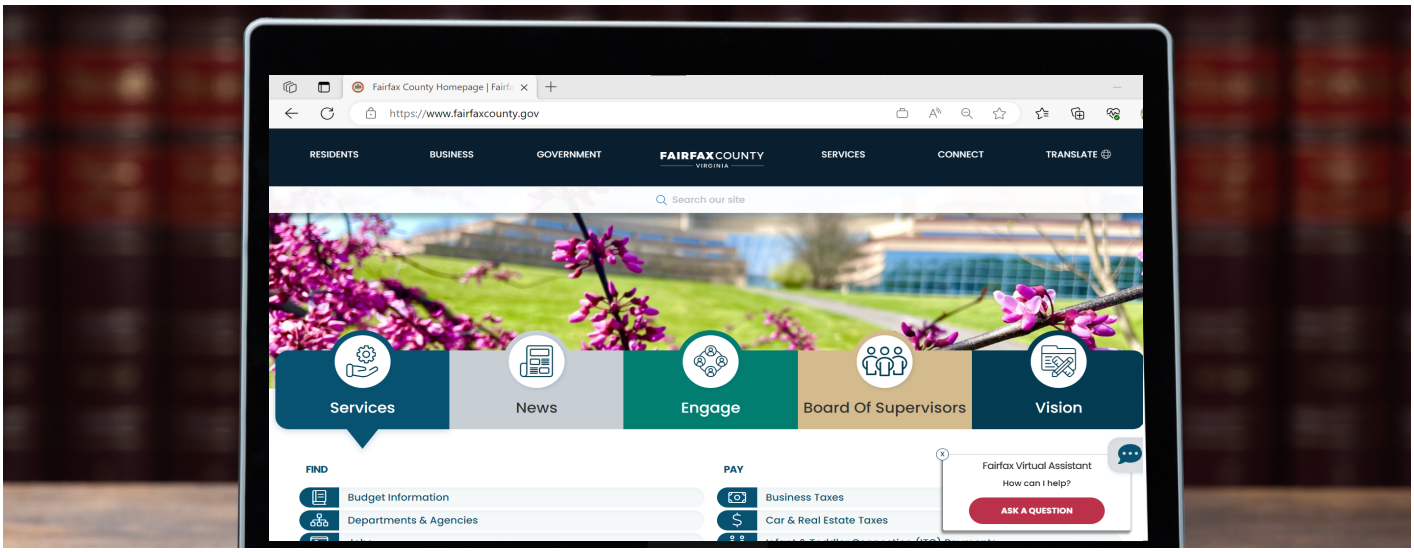
9. Initiated several governance policies and procedures: continued GIS governance, data publishing and web development, data governance, updated policies for archives and retention, PC replacement, 70-70 IT Security.
10. Cloud migration of servers.
11. Starting multi-lingual omni channel 311 initiative.
12. Cloud portal solution for Boards, Authorities and Commissions.
13. New Mobile Device Management solution.
14. Public website refresh (in progress).

Information Technology goals and guiding principles are reviewed periodically for applicability and relevance against new strategic priorities, service demands, IT trends, and budget dynamics.

The following key enterprise initiatives are part of this overall strategy.

2.2 Digital Government/E-Government

The Digital Government/E-Government (E-Gov) initiative, a foundational program, supports the County's goal of a "government without walls, doors, or clocks." The overall goal of digital government strategies is to bring the County's many channels closer to its constituents and businesses, providing services in a more efficient way. At the same time, it implements the policies and procedures that integrate all platforms, both for internet and intranet, to create a transparent and innovative government. It also creates a governance plan to include digital security and privacy issues. The program provides the technical basis to create a data-driven environment that is built on the engagement model which utilizes open data, analytics, and personalized engagement to create a transparent service delivery that encourages users to participate. It enables County agencies' operational efficiency, mobile workforce, emergency management and Continuity of Operations Plans (COOP).



The E-Gov program develops and supports the architecture, web infrastructure, and application framework for over fifty agencies on the Web, other public channels, and internal Web portals. This includes the public website, https://www.fairfaxcounty.gov/, online services, mobile apps, social media, web-based applications, Interactive Voice Response (IVR), Cable TV, and the County's Public Access sites in Libraries and Access Fairfax sites, to provide a unified access point to County information and services. The Department of Information Technology and Office of Public Affairs jointly work on design, navigation, content management and social media integration aspects of the web site. The E-Gov program supports enterprise web application development and provides technical oversight to web developers and programmers. In addition to continuous improvements of the website and deploying new services, transactions and social media, the strategy also includes Customer Relationship Management (CRM), and Web Content Management (WCM) tools for comprehensive, integrated service options to engage and create a partnership with the community in a collaborative way. Popularity and use of E-Gov capabilities continues to expand. Here is a sampling of significant stats:

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Website Visits	18,160,887	16,314,450	17,821,929	20,382,549	29,671,925,	21,195,770,
Facebook Reach	91,759,813	66,317,648	76,617,759	95,088,315	60,581,636	75,887,345
YouTube Views	305,436	318,264	375,514	762,880	622,533	709,403
Emergency Blog	98,362	161,696	221,372	2,013,020	2,397,792	789,423
County Residents on Nextdoor	122,005	166,136	217,033	272,198	334,658	365,561
Twitter Reach	69,575,979	62,923,888	65,362,561	75,283,983	66,521,480	50,517,822
TOTALS	180,022,482	146,202,082	160,616,168	193,802,945	160,130,024	149,465,324

Sec 2. Table 1 - Number of visits, views, impressions made with Fairfax County's social media.

The overall digital government program supports Board priorities regarding public engagement, and other County initiatives associated with technology innovation in public service including, land use, Next Generation 9-1-1, Health and Human Services Integration Initiatives, mobility, and transparency.

The County has achieved much success and acclaim for its E-Government focus in integrating the Web and IVR platforms to offer a wide variety of channels for online public access to services and programs, and its success in incorporating social media capabilities in a thoughtful way that enhances service delivery. Fairfax

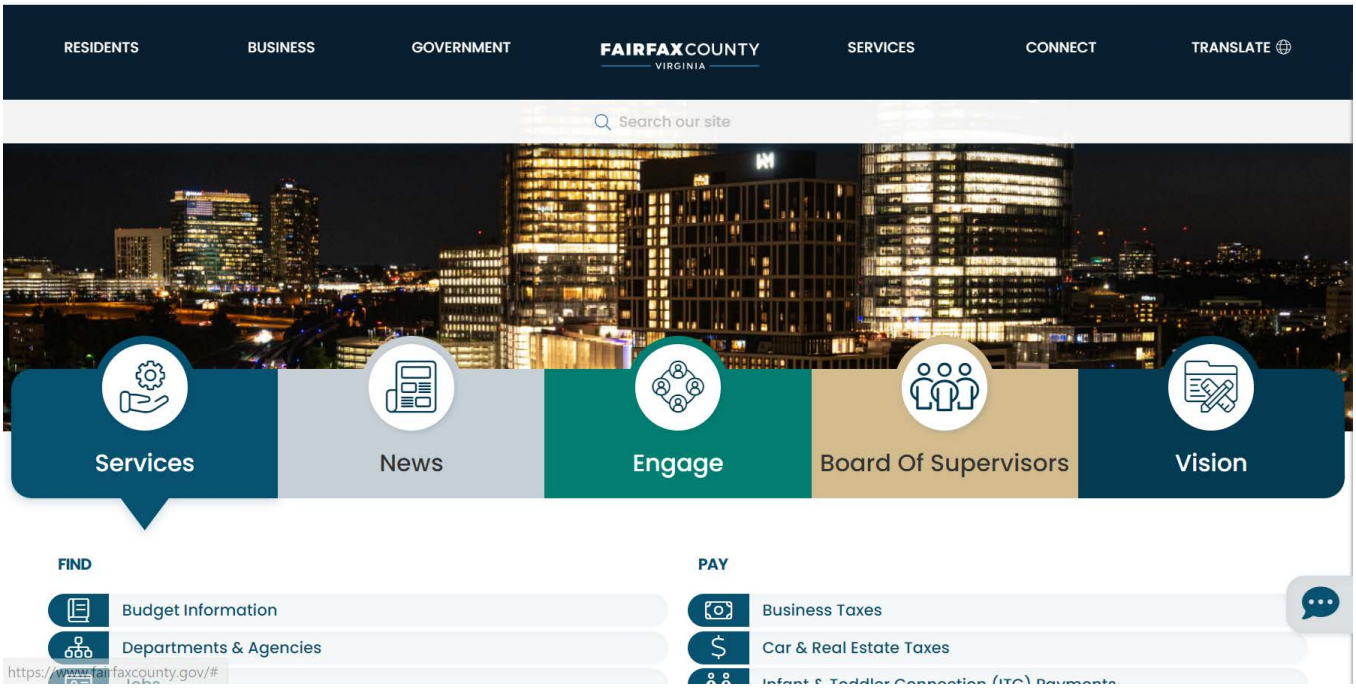
County has consistently received national recognition from the Center for Digital Government as one of the top-ranking localities in the US, placing in the **top ten** for the past fifteen years.

The E-Gov program continues to work with the Commonwealth of Virginia, regional partner municipalities, and federal government agencies in interoperability of common service portals and developing web service standards to enable cooperative access and seamless integration of information and services regardless of the origin or the source.

WEBSITE

Fairfax County's public website at https://www.fairfaxcounty.gov has been an extraordinary success and has received numerous national and local accolades over the years. The modern, topic-oriented Fairfax County website showcases an enhanced business delivery model, with improved search engine optimization and eliminates data silos thereby promoting transparency on the County's website. The County's innovative use of technology combined with user-friendly website design has streamlined the interaction between constituents and the government and provides the necessary tools for collaboration and participation with County government.

Approximately 55 County agencies have a presence on the site. The responsive design promotes a "mobile first" approach and renders the website seamlessly on all mobile devices bringing the County government closer to the public - available from anywhere at any time. The County website is also translated using machine translation powered by Google. The website experience has expanded significantly with improved and new interactive features and online applications including the "Fairfax Virtual Assistant" – an AI powered chatbot, to enable citizen interaction with government on various topics. Department of Information Technology and Office of Public Affairs work together with agencies to determine the most asked questions to inform content added to the Virtual Assistant.



Sec 2. Figure 1 - Fairfax County Website

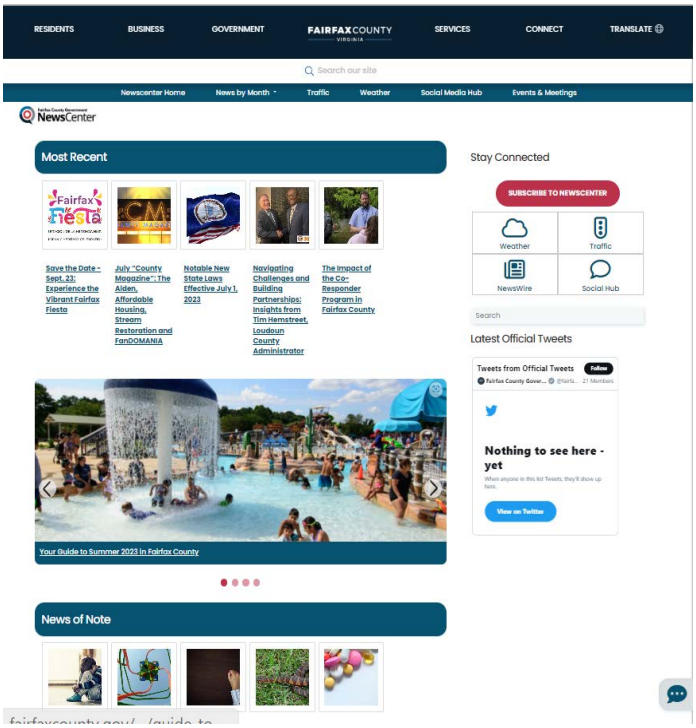
To create a data-driven environment and support the ongoing strategy of transparency, interactive visual data and dashboards were added to enhance the web experience and share relevant information. Through data visualizations the chance of increasing audience engagement and presenting information in an understandable and digestible format is much higher.

The Fairfax County website provides secure and expedient access to hundreds of key online services for its constituents to pay, register or apply for services like tax payments, real estate information, permits, housing, jobs, basic needs, park classes etc., The convenience of conducting business online has many benefits including improved service through greater flexibility, faster delivery, cost and time savings for the public.

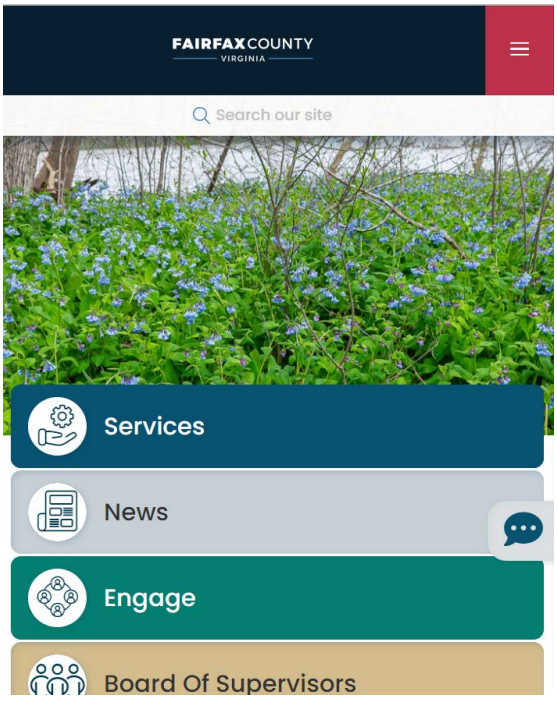
The NewsCenter (https://www.fairfaxcounty.gov/news/) on the County's website is the central location to share County and community information. It is a comprehensive site, that consolidates all the ways residents and employees can stay connected with the County, including news articles, social media hub, podcasts, RSS feeds, and emergency alerts.

For website accessibility, website pages are tested for compliance with Section 508 of the Rehabilitation Act of 1973 (https://www.section508.gov/manage/laws-and-policies) and the Americans with Disabilities Act (ADA) by passing through the County's automated compliance checking tool.

E-Government will keep focus on continuous innovation and implement projects that will provide services and programs using new technologies such as cloud-native application development and integration, containerization, and shared services. The County will continue to invest its efforts in integrating Artificial Intelligence concepts to provide more efficient services, leveraging AI chatbot to engage with the public in additional languages, integrate with home assistants and explore live assistant capabilities.



Sec 2 Figure 2 - Fairfax County NewsCenter Tablet View



Sec 2 Figure 3 - Fairfax County Services Phone view

MOBILE

Acknowledging the widespread growth of mobile technology, the County website took a “mobile first” approach using responsive design, rendering the website seamlessly on all mobile devices bringing the County government closer to the public - available from anywhere at any time. Providing mobile accessibility allows residents to access the County at their convenience and reaches a wider user community with the ability to access services and information easily from any location.

Supporting the County’s strategic vision and striving to create a citizen-centric approach that goes beyond the website, Fairfax County pioneered the availability of governmental services on mobile devices. In enhancing the County’s long-standing goal that our community should be able to access their government 24/7 without walls, doors or clocks, Fairfax County placed government in the palm of their hands with the introduction of efficient and cost-effective mobile apps and services.

The public can download the official Fairfax County application on their smartphones and tablets for emergency information, news headlines, one-touch calling through a contact directory, GPS maps, social media links, transportation resources and more at https://www.fairfaxcounty.gov/topics/mobile. The Fairfax County Mobile App has been downloaded over 5,000 times this past fiscal year.

SOCIAL MEDIA

Social media in Fairfax County has been a significant success in engaging its residents on platforms people use daily. News articles published on the website are integrated into Facebook, Twitter, Nextdoor, Instagram, Flipboard, Apple News and Google News. The County currently has 26 official Facebook accounts, with additional 10 Facebook pages for each Board of Supervisors which reached over 76 million people in FY 2022. Across the County’s 20 Twitter feeds, total Twitter impressions for FY 2022 was 50,517,822. Nextdoor adoption in Fairfax County continues to be strong with 365,561 verified residents using Nextdoor. The use of these tools is critical to engage in two-way communication with the community. A centralized social media content management system is in place, along with a comprehensive social media policy.

The social media management system’s user interface takes the form of a dashboard, and supports integration of various social networks like Facebook, Twitter, YouTube, etc. This system has helped build an engaging presence on social media with the ability to manage all our social networks and schedule messages for future publishing. Additionally, the real time analytics provided by this tool gives an in-depth view of how well the County’s social media efforts are being received by the public with the ability to visualize the metrics in one easy place. The tool also helps monitor social media conversations that matter to the County, identify its influences, and observe emerging trends.

In coming fiscal years, the use of social media will continue to be important. The E-Gov plan will further integrate social media into operational aspects of agency lines of business to ensure cross-platform sharing as needed. Social media tools will continue to evolve as the leading E-Gov tools of choice in the years to come.

AUDIO AND VIDEO

Fairfax County launched an Internet streaming radio station simply named Fairfax County Government Radio in 2014. The County owns and produces large amounts of audio content for the County's SoundCloud social media account. The public can listen online (https://www.fairfaxcounty.gov/publicaffairs/radio) providing access to County information 24 hours a day, seven days a week. During emergencies, the station is used to share important emergency information in an audio format, similar to the way the County currently uses other platforms such as the emergency alert system (https://www.fairfaxcounty.gov/alerts) where residents can sign up to receive emergency alerts by both text and e-mail.

The use of videos has continued to expand beyond the County's existing cable TV channel. Use of recorded video testimony via YouTube for public hearings during COVID-19 is just one example of increased video use as we learn to work and communicate from a distance.

The E-Gov program will continue to affirm the County's strategic vision and goals, with enhancements to services and a focus on improving online service delivery with a coordinated process for implementation. Efforts on re-architecting information, modifying layout and presentation of content on the County website will continue to be of prominence. Emphasis will be placed on providing information based on topics key to the public, based on metrics and usage patterns of the website.

2.3 Geographic Information Systems (GIS)

Geographic Information Systems (GIS) is a strategic foundational technology, integrated with numerous County applications and business processes. GIS remains an essential component of County operations and is heavily used by a wide range of County agencies for a variety of purposes. The GIS Division maintains an enterprise wide GIS system with a range of technologies, related products and data that provide the foundation for ongoing integration of GIS into County operations as well as enabling the agencies to maximize the use of analytical GIS in their lines of business.

Web-based GIS applications continue to be central to communicating locational based information to staff and residents. Map-centric applications continue to be created by County staff for operations and the public in FY 2023. Many of these are featured in the entries for the annual GIS Excellence Exhibition. https://storymaps.arcgis.com/collections/42f5e101ab964b18a100d63a52c7b646.

In FY 2023, the county saw a large expansion and heightened utilization of the internal Enterprise Portal as well as the Police and Fire and Rescue internal portals. These platforms have become hubs for internal applications that support many different groups in day-to-day operations. The modernization of these platforms was completed in the past year.

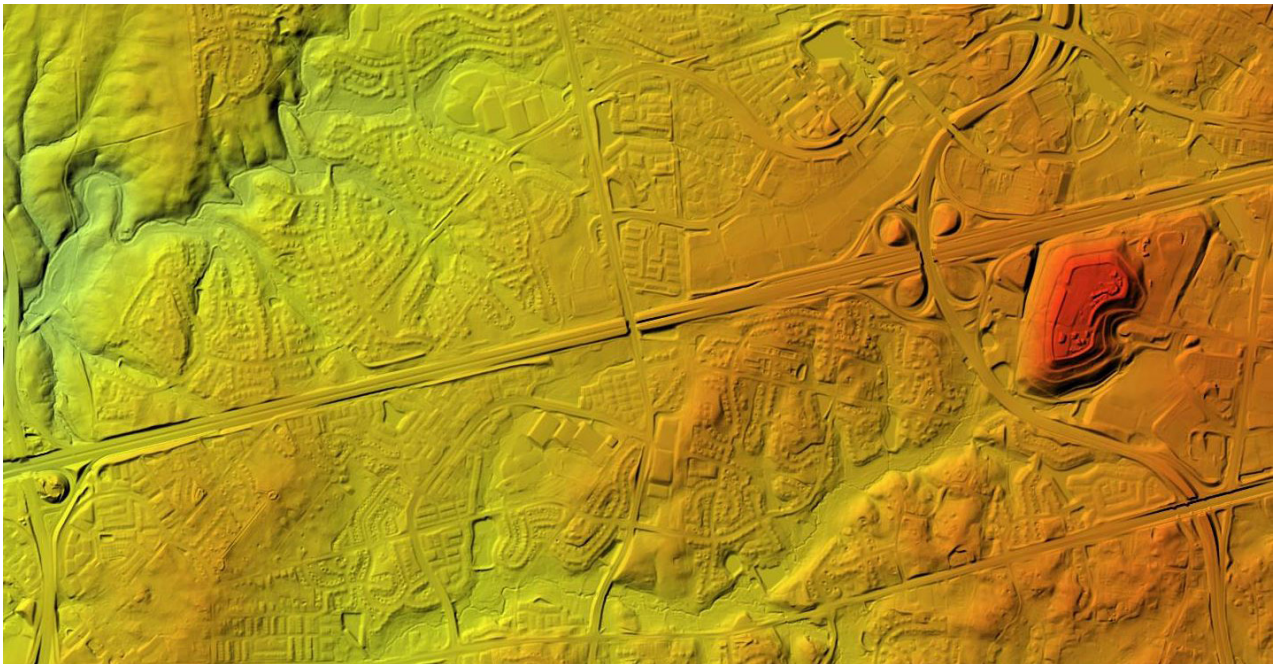
The public Interactive Map Gallery is the hub for all online maps on the County web site though each appear embedded on the relevant business pages as well. The Interactive Map Gallery alone hosts 90 applications, that serve a variety of informational and interactive services. Cumulatively these applications had over 2.9 million views in FY 2023.

Most Interactive Map Gallery (https://www.fairfaxcounty.gov/maps/interactive-map-gallery) applications are focused and thematic, but the public also has access to a general GIS viewer and reporting application. The JADE was developed in FY 2020 as a public facing light GIS that allows residents to work with the GIS layers independent of the thematic applications. The internal facing Geographic Exploration and Mapping (GEM), a sister application, contains largely the same information, with both applications providing residents and staff easy access to GIS information that staff will use in assessments and reviews. Online training videos support the public in learning how to use the JADE application and the use of both applications fill an important open government niche. In FY 2024, the GEM and JADE will receive updates for further improvements.

The availability of key County data through the GIS provides a range of benefits to constituents and County staff. Digital aerial photography is widely used in many GIS applications, providing the ability to do remote reconnaissance or to view past conditions. Parcel and zoning data are key datasets and are regularly maintained by the GIS Division. All parcel map changes are posted daily, providing web users of the Digital Map Viewer (DMV) with the latest versions of the maps. On average, over 13,000 DMV maps are viewed or downloaded per month.

Surface information is crucial to many environmental regulatory and stewardship functions undertaken by the County. The GIS Division leads the region in these areas, with exploitation of LiDAR and Land Cover Analysis, (Figure 5, Land Cover source material and derivatives). In 2015, for the first time, the County obtained **LiDAR** (Light Detection and Ranging) for the entire County. It was captured again in 2018 and another flight was conducted in late 2022. Acquired in partnership with the US Geological Survey, this newer collection is at 8 points per meter totaling 46 billion data points and over 1 TB of data. The resulting detail above ground and the ground level provides high value capabilities while the year to year comparisons now possible give unprecedented insight into how conditions change on distressed streams and other areas. (Figure 6, LiDAR surface of central Fairfax County).

Sec 2 Figure 5 - Land Cover source material and derivatives



Sec 2 Figure 6 LiDAR surface of central Fairfax County

For instance, soil removal volumes can be computed on specific watersheds to understand the scale of change across time. The 2022 LiDAR acquisition will update the analytical comparisons made of stream conditions over time to determine the extent of furtherance of bank subsidence and other hydrological processes. This information will subsequently inform the stream restoration program as well as others.

Oblique imagery and its related software constitute one of the County's core GIS data sets and technology. Originally flown for the first time in 2003, it serves as a key reconnaissance tool for multiple County agencies. Oblique imagery is integrated into CAD/911 operations, Department of Tax Administration assessment processes, the Geographic Exploration & Mapping (GEM) application, the public facing JADE application and serves as the source data used to derive the 3-D building. The County now flies oblique and ortho-imagery annually under GIS Division management. The newest oblique imagery was flown in 2023 and will be received in the summer of 2023, the next acquisition is scheduled for winter 2024. (Figure 6, Oblique Imagery of Herndon Memorial Station).

Planimetric data is another foundational data set for almost all County GIS applications. Planimetric data is information derived from aerial imagery that model natural and man-made visible features. Accurate planimetric data depends on high resolution and high accuracy ortho-imagery. The County is evaluating the use of its own yearly ortho-imagery as source material to start a more timely date cycle. The GIS Division is working with agencies in FY 2023 and FY 2024 to determine the frequency and content of future updates.

Addresses are essential to almost all County operations. The GIS Division collaborated with other County agencies to bring the Master Address Repository (MAR) online in 2004 and collaborated again when it was refreshed in FY 2023. The MAR is the authoritative source of parcel (situs) addresses in the County and since 2004 the office has maintained all County address data

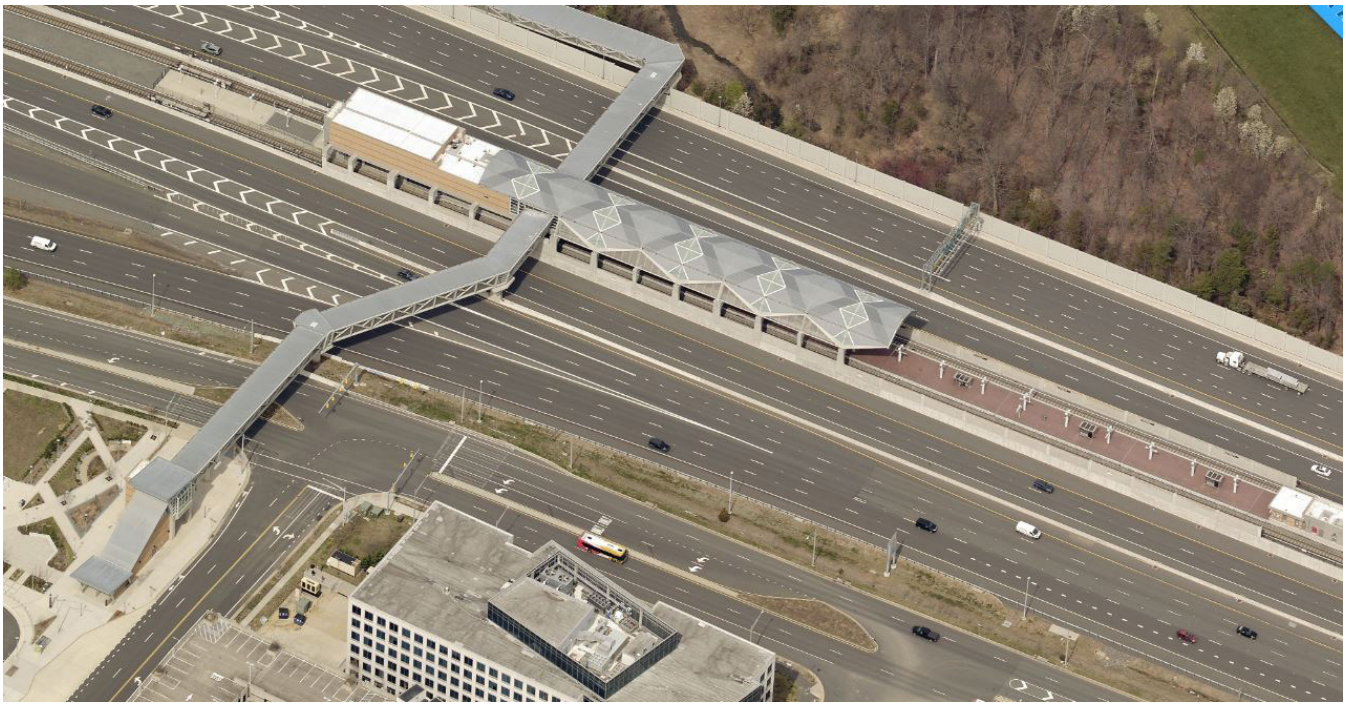
in the MAR system. The Master Address Repository project has been invaluable for the CAD/911 system as well as other major County systems including the Planning and Land Use Systems (PLUS), tax administration systems and is essential for effective operation of the CAD/911 system. Integration with the MAR is a requirement of new and refreshed systems where address is used as part of the record. The new modernized MAR now contains over 375,000 unique authenticated addresses and has a new public interface for external access.

Working towards improved government interoperability is a significant and ongoing strategic activity for the GIS Division, both within Northern Virginia and regionally through the Washington Council of Governments (COG). Interoperability across the National Capital Region (NCR) and with the Federal Government for emergency response purposes is also crucial. Fairfax is a member of the COG GIS Executive Committee and has helped guide the development and implementation of the regionally funded National Capital Region Geospatial Data Exchange (NCR GDX) through its membership in the program's executive committee and through operational Program Management and Direction. The program began in the spring of 2012 and has transformed across time into a hub for public safety GIS Information. Users of the system can exchange contextual, or event related geographic information between emergency operations centers, command posts, or fusion centers. Additionally, the NCR GDX program conducts its own "community" drills to ensure the readiness of the operators and familiarity with the tools to enable the GIS community across the NCR in collaboration with federal agencies to support a regional emergency response.

The CAD2GIS project was established as part of the NCR GDX program. CAD2GIS uses geospatial data feeds from live CAD2CAD data (9-1-1 call and unit information). This data offers a near real time geospatial view of Fire and Rescue unit and incident locations to provide situational awareness at a regional level. The geospatial data can be consumed and integrated into existing applications by participating jurisdictions within in the NCR to support both local and regional emergency preparedness and response operations. Figure 8 shows the regional dashboard for CAD2GIS (figure 8, NCRGDX Regional Dashboard).

As the NCRGDX program continues, County staff who administer the program continue to look for ways to solve or assist with regional GIS initiatives and efforts. The program already provides inter-governmental tools for regional initiatives such as the NG9-1-1 Collaboration Tool which allows for coordinated maintenance of Public Safety Answering Points (PSAP) boundary layers across the region to support NG9-1-1 implementations and to ensure 911 calls are routed to the appropriate PSAP. This system assures the update efforts are uniform and coordinated across the region and within the Commonwealth. Current initiatives seek to create responder level tracking services for Fire and Rescue as well as a law enforcement incident situational awareness tool.

Interoperability is crucial in Northern Virginia as emergency response personnel regularly cross jurisdictional boundaries. Access to accurate street centerline data is particularly important to the Fire and Rescue personnel who may have to cross jurisdictional boundary lines when responding to an incident. The GIS Division maintains Fairfax County's street centerline data used in the CAD/911 system and provides the data to the Commonwealth of VA which aggregates Fairfax County's data into a state-wide centerline file. The Northern Virginia Regional Routable Centerline (NVRRCL) project, led by the GIS Division, has been an important and ongoing project enabling centerline data sharing for the CAD/911 system. The project established a common street centerline data model to support vehicular routing and enables participating jurisdictions to share current street centerline data to support vehicular routing, and enables member jurisdictions (Loudoun, Prince William and Arlington



Sec 2 Figure 7- Oblique Imagery of Herndon Station

counties and the cities of Alexandria, Falls Church, and Fairfax) to share routable centerline data across Northern Virginia and the Commonwealth. GIS support for the CAD/911 system is a core GIS office responsibility, involving data maintenance requirements which continue to be a significant effort. With the transition to Next Generation 9-1-1, regional data plays an even more critical role.

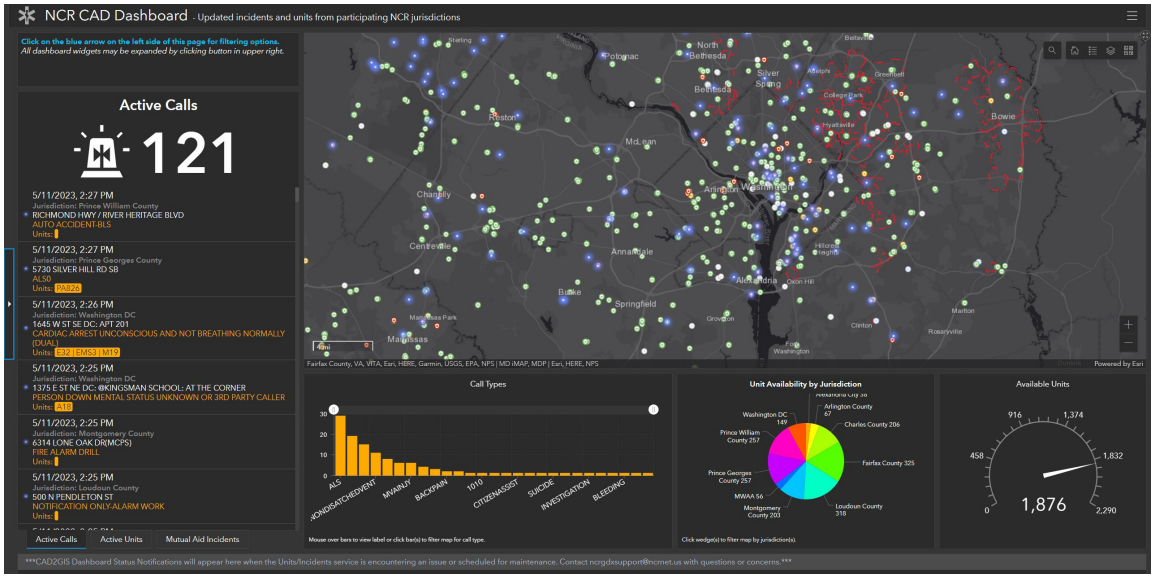
GIS technology continues to be an important asset in emergency management. The GIS Division has a team of analysts trained to respond and assist the Department of Emergency Management and Security during an emergency. The team has developed a viewer which enables users in the Emergency Operations Center (EOC) to access various datasets including the regional GDX emergency incident layers, the CAD2GIS data feeds, and other supporting data to support both local and regional response efforts. This viewer will be updated with new capabilities in FY 2024.

GIS technology enables its users to perform advanced data analysis to inform emergency managers and responders during evolving and dynamic response efforts. For instance, the number of people estimated to be in a particular area, number of homes impacted by a power outage or a boil water order, homes that will be impacted by a sewage pumping station issue, etc. GIS is a key component of situational awareness in the support of emergency operations and activations during which the GIS Division works closely with the Situation Unit to keep the emergency operations staff informed from a common operating picture.

The breadth of GIS utilization across the County, and the extent of its integration into the overall IT architecture are reflected in the award-winning plans and efforts of the preceding years. These awards recognize GIS's achievement in fostering and expanding the use of GIS applications to improve County operations:

- In CY 2022, the Environmental Systems Research Institute (ESRI) recognized Fairfax County for excellence in its Enterprise Approach to GIS. This award recognized the way in which Fairfax County has achieved and maintained organizational success through its Enterprise GIS policies and approaches.
- In CY 2020, Fairfax County received a Special Achievement in GIS Award from Environmental Systems Research Institute (ESRI). This award was given in recognition of Fairfax County's broad based, innovative and enterprise approach to GIS that has resulted in significant benefits to County agencies and residents.
- In CY 2018 the National Association of Counties granted Fairfax County its 2018 Achievement award for its program "Customizing Data for Health and Human Services Planning", which was GIS-based and helped drive zoning and development decisions.
- In CY 2015, Fairfax County was ranked #1 for jurisdictions with population over 500,000 in the Digital Counties Survey of the "Most Innovative, Pioneering Counties". The award specifically referenced a GIS application developed by the Department of Neighborhood and Community Services. That application was also a winner of one of the County's GIS excellence awards the year before.
- In FY 2014, Fairfax County was awarded a Special Achievement in GIS award by Environmental Systems Research Institute (ESRI) for its contributions to ESRI's national community mapping service. Now a highly-detailed base-map is available for all users of ESRI's tools. Fairfax County continues to support this effort.
- In FY 2011, Fairfax County GIS, as part of the regional team carrying out the Regional Routable Centerline project, was awarded a Special Achievement in GIS award by ESRI. The award recognizes organizations that use GIS to "improve our world – and set new precedents throughout the GIS community."
- The National Association of Counties recognized Fairfax County for its use of GIS in the reapportionment process.

Fairfax County is a member of the Northern Virginia GIS managers group, an informal group that regularly meets to coordinate activities, serves on the MWCOG GIS Committee, and also works closely with the State's GIS agency (Virginia Geographic Information Network), which is part of Virginia Integrated Services Program. Additionally, each year, GIS hosts "GIS Day" and the GIS Excellence Awards which promotes the use of GIS and development of new GIS applications through County wide competition and awards.



Sec 2 Figure 8 NCRGDX Regional Dashboard

2.4 Customer Relationship Management (CRM)

Citizens expectations for modern access and interaction with government services continues to grow dramatically. Agencies must leverage technology to capture citizen interaction, track responses to inquiries, manage requests for services, and track complaints and resolutions. To best serve the public, the County needs a common platform that promotes effective and efficient government by integrating with e-government capabilities, supporting omni-channel interactions and leveraging web services and the cloud to improve customer experience and enhance public engagement. The County provides tools and technology that enable data informed decision making, an enterprise-wide view of constituent needs and concerns, and agency responses. Fairfax County continues to respond to this growing need through Customer Relationship Management (CRM) technology platforms that support Low-Code and rapid application development. This allows for a reusable data model, that enables faster development times while maintaining the security and integrity of each agency or business area by leveraging CRM applications and ensuring agency access to data based decision making. Leveraging enterprise low-code CRM application platforms gives citizens enhanced access to inquiry and information about County programs and services.

This project aligns with the County-wide strategic plan and supports the replacement of several customer facing applications/ solutions with more advanced application platforms to improve internal efficiency and ensure equitable access. This initiative has successfully completed data conversion, migration, and implementation of a contemporary CRM user experience across various divisions and programs throughout the County. Applications have been deployed to support eviction prevention efforts, to modernize the Department of Cable and Consumer Services complaint process, and to support needed County services such as the Adult Day Health Centers. Future phases of this project will continue with planned migration from legacy systems to the new enterprise class platform and build applications that ensure multiple modalities for access to the vast services and programs offered by County agencies, with consolidated online and mobile applications - to applications integrated with County call centers.

Staff continues to expand the use of enterprise technologies and platforms to meet the County's digital transformation goals in enterprise application deployment across County agencies and to support the County's strategic initiatives. Enterprise Low-Code application platforms facilitate increased efficiency and effectiveness in managing the many citizen requests and interactions within and across County agencies and business functions. It allows a constituent-focused operation where government is positioned to be proactive to citizen concerns by enhancing collaboration among all agencies and by providing knowledge of common issues for follow-up. The platform also improves transparency by allowing constituents to easily view County management of their requests with a tracking number. Consolidating intakes, reducing the number of duplicate requests, and eliminating redundant systems provide tangible evidence to citizens that their government is efficiently working to provide better access to information, enhance issue response/processing, and improved accountability/compliance.

2.5 Enterprise Content and Document Management

The County established a strategic approach to content and document management by developing an integrated solution on an enterprise platform. Content Management is an organization's foundation for the use of information from structured data (through business applications), and unstructured data in electronic or imaged documents (word processing documents, spreadsheets, e-mail, and reports).

Content Services Platform (CSP) integrates with Cloud infrastructure and is deployed in containers that allows for full portability of data between County private cloud, public cloud, and on-premises platforms. Artificial intelligence can also be utilized for tasks like assigning metadata and even recommending document organizational improvements, and automatically categorizing content based on predefined terms and taxonomies, which allows AI to work at a scale and speed that improve business processes almost instantaneously. This comprehensive approach and associated implementation of technology provides a familiar search engine-like interface for rapid information retrieval. This platform can also integrate with low-code development tools and empower business users to build applications in hours that used to require months of software engineering. CSP APIs enable connections to preferred workflow, collaboration, business intelligence and analytical tools to minimize complexity and training needs, avoid custom software development, and add functionality with a building block approach. This integrated solution is more cost-effective and provides a seamless integration for use of information exchange and data sharing with other systems required for a complex business transaction.

Content, records, and document management will continue to be a long-term strategy for integration of structured and unstructured electronic and paper-based information and file types to optimize and enhance overall information management, transparency, and decision processes. These initiatives have provided benefits and quality improvements including:

- Increased staff productivity through the delivery of the right documents at the right time.
- Enhanced communication and collaboration through shared information.
- Improved speed of information and transaction flow throughout County agencies.
- Improved access and security through controlled access to sensitive documents.
- Reduced time spent searching for critical documents.
- Improved disaster recovery through electronic storage and backup of information that is far more secure than paper.
- Reduced clerical, paper, printing, and storage costs.

2.6 Integrative Health and Human Services Model and Information Technology

In the last few years, the field of health and human services (HHS) has rapidly evolved. Between the COVID-19 Pandemic, demographic changes, economic changes, and new services and programs, the importance of a health and human model that focuses on integration and interoperability has been affirmed. Individuals and families served by the HHS system often have multiple needs addressed by multiple programs and services. For instance, an older adult, experiencing health and mobility limitations who wants to remain in his home may need at least seven services that currently span four Fairfax County HHS agencies - medication management, nutrition guidance, "meals on wheels", home based support services, senior housing, transportation support, and adult day health care.

With this in mind, over the last several years, the County has engaged in efforts to develop a conceptual foundation and business model which tie together the work of various health, housing and human services agencies in efforts to achieve specific outcomes related to the health and well-being of the County's clients and community. A holistic approach to addressing needs along the spectrum of crisis to self-sufficiency to sustainability, as well as strong communication, coordination and collaboration across programs and agencies are key factors in successfully addressing their needs. The leadership of Fairfax County Health and Human Services (HHS) recognizes that the HHS needs to update its approach to service delivery and management, while leveraging technology to both improve the client experience and realize operational efficiencies. As we move forward, HHS strives for a model that:

- Ensures integrated delivery, management and evaluation of health, housing and human services.
- Is built around a shared vision that focuses on people and their strengths and needs, rather than individual programs.
- Increases the County's ability to assess program performance, identify long-term trends, and create efficiencies.

The ultimate outcome requires shared planning, robust data, and information exchange to shape policies and future actions focused on improved outcomes and shared accountability. This approach also increases the County's ability to assess program performance, identify long-term trends, and create efficiencies. These integrative initiatives have the goal of delivering person-centered services to County residents enabling a cross-sectoral exchange of process and data that better leverages resources and supports the County's overall goals of safety and health for individuals and families.

Information technology (IT) is an essential tool for gaining a comprehensive view of a client's needs and addressing those needs more effectively. Technology is also a critical enabler of improved collaboration across agencies and external providers and programs and between Fairfax County, the Commonwealth of Virginia, and other localities. Finally, it will enable Fairfax County to leverage data analytics for performance evaluation, policy analysis, program planning and budgeting activities.

Acknowledging that this is a complex venture, the goal is not to build or buy a single, all-encompassing, monolithic IT solution that will address the functionality needs of multiple agencies and the programs they manage. Instead, the aim is to be strategic about County IT investments, planning, and commitment to IT resources. Establishing the foundation for how information technology will be used across the health and human services system is the first step towards a multi-year effort enabling the programmatic innovation for the system.

The work is predicated on the need to increase agility in the implementation, management and use of IT, specifically:

- Create a more nimble, responsive approach to IT implementation and provide for a gradual/progressive approach to IT innovation.
- Incorporate "component based" and "service oriented" IT solutions that are designed to interoperate and support various programs/lines of business: wherever feasible, work off common IT components that can interoperate and be replaced or upgraded over time without compromising the functionality and performance of other components.
- Ensure IT supports more rapid, timely changes to policies, business rules and processes.
- Enable greater workforce mobility, user access and self-service where allowable.
- Enable more significant, ideally real-time interaction across the FCHHSS agencies and programs and with FCHHSS external stakeholders.

2.7 Planning and Land Use System Modernization

The departments supporting Fairfax County's land planning and development processes initiated a major strategic initiative, Planning and Land Use System (PLUS), to improve the speed, consistency, and predictability of the development review processes, and improve access to data and reporting. This project replaced and consolidated numerous legacy land use systems supporting zoning and development plan review, building permit/license issuance, code enforcement inspection, and cashiering activities. These legacy systems lacked the native agility of modern technologies for a flexible enterprise platform for evolving business process and architecture requirements, lacked optimal security capacities, and had compatibility issues with emerging desktop, tablet and mobile wireless technologies.

The initiative supports County plans to advance economic development and competitiveness, enhance business processes, provide better customer service, and achieve increased reliability in plan review, approval, permitting, and inspections. This initiative also supports Fairfax First and Economic Success strategies and aligns with the Board of Supervisors Public Engagement.

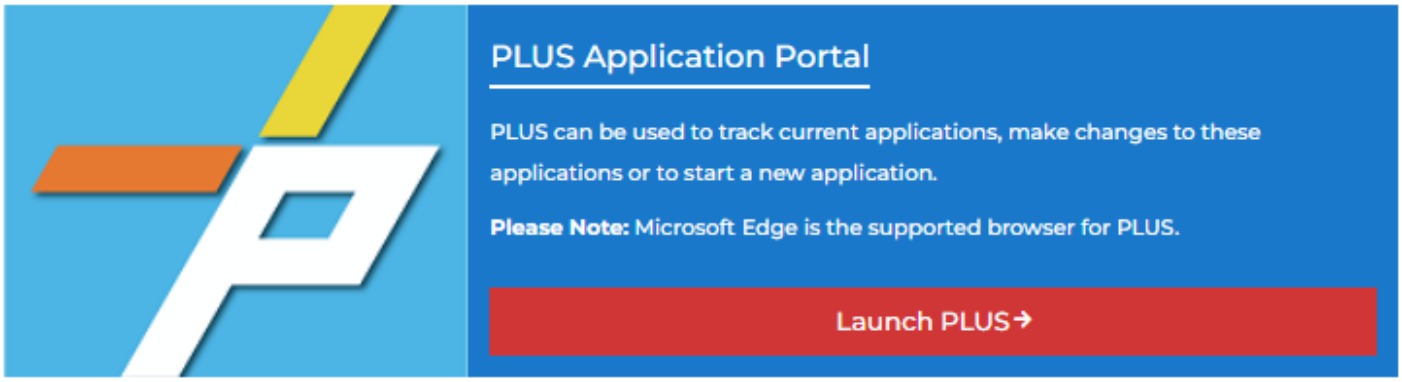
The Planning and Land Use System (PLUS) Modernization initiative and associated projects implemented the best fit IT solution to meet the overall objectives for business functionality, customer service, and technology needs of County departments involved in the regulatory land use and development processes and to modernize and enhance the County's land use business architecture and its underlying technologies. PLUS replaced legacy systems that operated on obsolete technology architectures, and numerous complimentary systems with custom interfaces that were developed to meet evolving business requirements over the past two decades. The legacy systems could not be modified to holistically accommodate the rapidly increasing changes in land planning and development business processes.

The PLUS project replaced and consolidated these aging systems with a modern technology platform driven by re-engineered, streamlined, and integrated business process across the five major land use stakeholder agencies. This project worked with the ongoing Electronic Plan Submission Project (ePlans) to deliver technical integration and functional interoperability. Key features and accomplishments include:

- Executive sponsorship and governance by the Deputy County Executives for Land Development and Information, and a Senior Executive Steering Committee comprised of the Chief Technology Officer, IT Program Directors for Solutions and Land Development, GIS and Web in DIT, and agency directors of the five major agencies associated with the land use process. This group provided leadership and strategic direction for the project including goals, timeframes, and priorities.
- Key leadership for the business scope and process improvement opportunities and goals provided by the Department of Planning and Development (DPD) and Land Development Services (LDS). Other core stakeholder departments include Fire and Rescue – Fire Prevention (FRD), the Health Department – Environmental Health (HD), and Department of Code Compliance (DCC).
- County staff conducted independent assessments of current procedures and processes, benchmarking the County against other best practices, identifying opportunities for improvement, obtaining input from the development community, developing recommendations to improve services and operational execution and performed an in depth market scan for solutions.
- An agile development approach for the PLUS system was adopted to deliver the software on an incremental basis, and continuously improve with end-user feedback to ensure the system meets current business needs. The software platform was upgraded to the most current version.
- The Release 1 was successfully launched in the second quarter of FY 2021.

- The PLUS Project Roadmap was updated in the fourth quarter of FY 2021.
- Release 2 was successfully launched in the first quarter of FY 2022.
- Release 3 was successfully launched in the third quarter of FY 2022.
- Knowledge Transfer sessions from vendor to County staff took place in the fourth quarter of FY 2022.
- Release 4 was launched in the second quarter of FY 2023.
- Project completion successfully achieved in FY 2023.

The Department of Information Technology provided the technological leadership and worked closely with the above core departments to modernize and replace most of the legacy systems and supporting system silos that support land planning and development, inspections, code compliance processes, and provides contemporary capabilities for Web, mobility, and data analytics



2.8 Data Architecture and Analytics

Data is a key enabler for delivery of organizational objectives in Fairfax County. This strategic initiative will use data to power processes and support digital transformation, facilitate improved decision making, and continue building trust with residents. Data architecture will focus on the following areas:

1. Empower processes and support digital transformation:
    a. Integrate data collection and analysis by adopting a standardized data framework.
    b. Ensure standards and protocols are in place to maximize value.
    c. Implement automation capabilities to streamline data processing and analysis.
    d. Establish a modern data estate that leverages advanced technologies and tools to drive innovation and scalability.
2. Facilitate better data driven decisions:
    a. Use public input and data to anticipate challenges and opportunities.

b. Find innovative ways to provide equitable and meaningful services for the community.

c. Highlight disparities within a geographical area and distribute resources equitably through targeted intervention.

3. Build trust with residents through transparency:

a. Provide residents control over personal data through an intuitive portal and increased visibility about how data is used.

b. Provide effective data management so residents can select data privacy levels and update personal information when needed.

c. Demonstrate positive community outcomes achieved by utilizing resident data for analytical analysis.

4. Ensure technical data governance:

a. Establish technical data governance policies. Enable technical processes and frameworks to ensure accuracy, privacy, and security across the enterprise.

b. Implement and expand data classification and access control mechanisms to protect sensitive and confidential resident data assets.

c. Automate regular audits and assessments to monitor and enforce adherence to policies and standards.

Ultimately, the goal of this strategic initiative is to become a data driven organization that uses data to underpin policy, decisions, and actions to improve services and outcomes for residents, businesses, and the County. Data will be used to evaluate and monitor performance and help plan and prepare for the future, predicting issues before they arise. Becoming a truly data driven organization will support delivery of priority objectives and benefit residents by providing tailored and responsive public services and increased efficiencies.