

Core Infrastructure Reinvestment

Category: Information Technology

Department Lead: IT Services

Type: Ongoing Project

Project Description, Benefit, Estimate, and Schedule

This is a comprehensive plan to reinvest in all core infrastructure and backend systems to be able to improve overall systems security, modernize support, continue providing flexibility and greater access to staff to better serve the public by improving efficiency and response time up to date with secure industry standard options. The goal of this project plan would be to establish a reinvestment fund to properly update all aging core infrastructure that have already reached or will be reaching end of support life within the next 1 - 3 years – most of our existing core infrastructure is already 7 - 9 years old. An ongoing refresh cycle in the out-years requires establishment of a continuous ongoing reinvestment fund.

The proposed CIP reinvestment project plan includes:

- > FY23: Next Gen 9-1-1 core infrastructure requirements, COOP/DR core firewall & core switch - (~\$200K)
- > FY24: Library core firewall (w/ IDS/IPS), edge firewalls, network security enhancement infrastructure (NAC) - (~\$225K)
- > FY25: Blade server chassis, library edge firewalls, wireless/Wi-Fi infrastructure - (~\$125K)
- > FY26: Core switches (primary) - (~\$125K)
- > FY27: Blade server chassis (COOP/DR), partial fund reinvestment to maintain refresh cycle of all core infrastructure - (\$150K)
- > FY28: Establish initial full core infrastructure reinvestment - (\$100K)
- > FY29-32+: Continued fund reinvestment to maintain refresh cycle of all core infrastructure - (**\$100K annually**)



Capital Funding Plan

Funding Source	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029-32	10-YR Total
Local (Debt)	\$ 200,000	\$ 225,000	\$ 125,000	\$ 125,000	\$ 150,000	\$ 100,000	\$ 400,000	\$ 1,325,000
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Total:	\$ 200,000	\$ 225,000	\$ 125,000	\$ 125,000	\$ 150,000	\$ 100,000	\$ 400,000	\$ 1,325,000

Funding Notes: The general IT Services operating budget does not have sufficient funds allocated to do the necessary periodic systems & infrastructure refreshes on any sustainable scale and has had to procure key assets solely through vacancy savings or other one-off funds. It is recommended that the City budgets for a dedicated ongoing reinvestment fund rather than general operating budget due to the high dollar and long-term life of the equipment with large expenditures not on a regular annual cycle which still require a refresh cycle none the less. Council has approved the first phase of this CIP to initiate in FY22 for: Core Firewall (include IPS/IDS), Police Body-Worn Camera SAN, Library Public Infrastructure & storage

**if no activity per City Charter (Section 6.19) in 3 years note as re-appropriation action*

Impact on Operating Costs

This project will only carry standard ongoing annual licensing & maintenance contract costs for infrastructure that is generally accounted for in the operating budget for the most part. However, maintenance costs have significantly risen across all system types (~10% – 20+% annually) and maintaining a flat budget for years has actually created a growing shortfall in the operating maintenance budget. This CIP project does not address that unmet need that is listed in the general operating budget's "Unmet Needs"

Conformity with Comprehensive Plan and Council Strategic Plan/ Equity Lens Score

Consistent with the City Manager's Cybersecurity Workgroup, as well as the DHS' Cybersecurity and Infrastructure Security Agency (CISA's) recommendations on maintaining base standards of maintained infrastructure.

FY 23-28 Equity/Environmental/Resilience Lens Review

Falls Church 2040 Vision, adopted April 10, 2017
 In the year 2040, the City of Falls Church is a welcoming and inclusive community – a special place in the heart of Northern Virginia. Involved citizens are key to the City's long-term success as a leader in education, environmental sustainability, multi-modal transportation, and vibrant economic development. By investing in neighborhoods, community services and facilities, schools, and parks the City preserves small-town character and history while honoring a deep commitment to progress and a growing community. The continual rejuvenation of robust commercial areas supports the City's high quality of life for all citizens.

				Benefit those under stress		Reduce current disparities		Avoiding implicit bias or increased inequities		Environmental Impact		Resilience Impact	
				(Q1) Does the proposed project benefit communities of color, low-income neighborhoods, persons with disabilities and/or underserved? Could it be adjusted to avoid or mitigate the burden and/or to realize a higher benefit? How?		(Q2) Does the proposed project help reduce disparities and inequities? If not, could it be adjusted to do so? How?		(Q3) If Q1 and Q2 do not directly apply to this project describe how it does not worsen disparities and inequities?		What impact does the request have on environmental sustainability? Consider five categories: Climate, Air & Energy (CAE); Stormwater, Streams & Natural Springs (SSNS); Urban Forest & Biodiversity (UFB); Consumption & Waste (C&W); Community Engagement (CE). For clarification, refer to Comp Plan Ch. 5 Environment for Everyone. https://www.fallschurchva.gov/DocumentCenter/View/11242/Environment-Chapter-February-10-2020-FINAL		What impact does the request have on the community's ability to withstand, adapt to and/or recover from adversity (whether natural or man-made)?	
Department	Project(s)- listed in priority order	Funding Request	City Mgr Recommended Funding	Rank: Low (L) Medium (M) High (H)	Burden/Benefit Comments	Rank: Low (L) Medium (M) High (H)	Disparities Comments	Rank: Low (L) Medium (M) High (H)	Bias/Inequities Comments	Environmental Impact Comments (replace * below)	Resilience Comments		
ITS	Police Body Worn Camera Network Storage (SAN) Infrastructure (FY22)	\$ 100,000	Yes	H	Can help create an environment of law enforcement accountability to help bridge the gap of mistrust in communities that have historically felt under-represented and mistreated by law enforcement. This can afford the ability for much broader community trust in the overall accountability of our law enforcement officers charged with protecting the peace and safety of all our citizens.	H	Can help create an environment of accountability to help ensure there are no disparities or unequal treatment by our law enforcement personnel and to ensure the integrity of their mission is upheld and can be verified.	H	Can help create an environment of accountability to help ensure there are no disparities or unequal treatment by our law enforcement personnel and to ensure the integrity of their mission is upheld and can be verified.	CAE: low increase in electricity consumption. SSNS: no impact UFB: no impact CW: new electronic equipment required CE: provides ability for community to build & maintain trust in law enforcement interaction	Provides the ability to tangibly engage the community with evidence of interactions with law enforcement to reestablish, build and maintain public trust.		
ITS	Library Public Infrastructure & Network Storage (SAN) (FY22)	\$ 50,000	Yes	M	Equalizes access to City online services, electronic communications, online education and internet research to identified communities regardless of socio-economic status in the safety of our community library.	M	Increases computer and internet accessibility to all residents regardless of ability to afford, and gives more access to educational resources as is an important component so groups with less access to tools are not at a higher risk.			CAE: low increase in electricity consumption. SSNS: no impact UFB: no impact CW: new electronic equipment required CE: provides secure access for community internet access and productivity tools	Provides a secure infrastructure that is more reliable for the public to be able to use that do not have access to computing equipment and/or business productivity tool & applications.		
ITS	Network Security Enhancement Infrastructure (NAC & NetFlow) (FY24)	\$ 75,000	TBD	N/A	N/A		Project does not mitigate a community wide disparity but the proper maintenance of core infrastructure and systems is required to properly protect personal information data to ensure all citizens and employees receive equal security protection regardless of educational status, pay grade and/or socioeconomic status. All personal identifiable information (PII) data would have same security access regardless of their income, vulnerable population status and/or knowledge and trust of local government processes.		Project does not mitigate a community wide disparity but the proper maintenance of core infrastructure and systems is required to properly protect personal information data to ensure all citizens and employees receive equal security protection regardless of educational status, pay grade and/or socioeconomic status. All personal identifiable information (PII) data would have same security access regardless of their income, vulnerable population status and/or knowledge and trust of local government processes.	CAE: minor increase in electricity consumption. SSNS: no impact UFB: no impact CW: minimal new electronic equipment required CE: provides community confidence that data maintained by City is properly secured following best practices & up to date secured systems	Effective maintenance of core infrastructure and systems is required to enable emergency communications and response capability in adverse events, and restoration and continuity of government operations thereafter.		
ITS	Maintain Free Public Wi-Fi at all facilities (FY25)	\$ 75,000	TBD	M	Equalizes access to City online services, Council meetings, electronic communications, online education and internet research to identified communities regardless of socio-economic status but inequities can still occur if access to a facility is constrained due to lack of transportation or operating hours; higher level of benefit can be achieved by boosting signal range to safe parking areas on a segregated network to secure internal operations	M	Increases WiFi infrastructure to all residents regardless of ability to afford internet access but does not address direct availability of mobile equipment; program could be improved by locating grant resources for low-income persons to acquire equipment, educating on adaptable equipment for persons with visually or hearing impairments and/or establish lending library, cybersecurity education is an important component so groups with less knowledge or access to tools are not at a higher risk			CAE: low increase in electricity consumption. SSNS: no impact UFB: no impact CW: new electronic equipment required CE: provides secure access for community internet access and productivity tools	Provides communication option for people who have home or business power outages (if supported by back-up power generation).		
ITS	Core Infrastructure reinvestment Fund - 10+ year ongoing plan. (Firewalls, core switches, chassis, etc.)	\$ 1,000,000	TBD	N/A	N/A		Project does not mitigate a community wide disparity but the proper maintenance of core infrastructure and systems is required to properly protect personal information data to ensure all citizens and employees receive equal security protection regardless of educational status, pay grade and/or socioeconomic status. All personal identifiable information (PII) data would have same security access regardless of their income, vulnerable population status and/or knowledge and trust of local government processes.		Project does not mitigate a community wide disparity but the proper maintenance of core infrastructure and systems is required to properly protect personal information data to ensure all citizens and employees receive equal security protection regardless of educational status, pay grade and/or socioeconomic status. All personal identifiable information (PII) data would have same security access regardless of their income, vulnerable population status and/or knowledge and trust of local government processes.	CAE: no impact - refreshing existing equipment SSNS: no impact UFB: no impact CW: no impact - refreshing existing equipment CE: provides community confidence that data maintained by City is properly secured following best practices & up to date secured systems	Effective maintenance of core infrastructure and systems is required to enable emergency communications and response capability in adverse events, and restoration and continuity of government operations thereafter.		