BROADBAND COMMUNICATIONS LINK

DOCUMENT SUBSECTION: Smart Mobility
MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: 4600 - 5700 Eisenhower Ave
REPORTING AREA: Eisenhower West

PROJECT CATEGORY: 3
ESTIMATE USEFUL LIFE: Varies

Broadband Communications Link												
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	**1,067,969**	**1,067,969**	-	-	-	-	-	-	-	-	-	-	-
Financing Plan													
Cash Capital	49,227	49,227	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-	-
TIP	18,742	18,742	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	**1,067,969**	**1,067,969**	-	-	-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.

PROJECT DESCRIPTION & JUSTIFICATION

The Eisenhower Broadband Communications Link project designs and constructs the expansion of the Smart Mobility fiber optic communications (broadband) network onto Eisenhower Avenue, between Van Dorn Street and Clermont Avenue. This will allow the City to better synchronize traffic signals along Eisenhower Avenue, install traffic surveillance cameras, and provide the platform to install future smart technology.

With the proposed development in the Eisenhower West area, smart traffic signals will be needed to manage the anticipated increase in traffic volume. This project aims to mitigate the impacts of proposed development along Eisenhower Avenue by laying the groundwork with fiber optic cable and surveillance cameras to support for real time traffic monitoring and a communications network that will connect the new and existing traffic signals to provide synchronization along this corridor.

This project is being combined with the Adaptive Phase 1 project and will build onto the infrastructure installed with the ongoing ITS Integration project. Design was completed in 2023 and construction is anticipated to begin at the end of 2024.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

DASH TECHNOLOGIES

DOCUMENT SUBSECTION:	Smart Mobility
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services

PROJECT LOCATION:	Citywide
REPORTING AREA:	Citywide
PROJECT CATEGORY:	3
ESTIMATE USEFUL LIFE:	16 - 20 Years

DASH Technologies

	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	6,379,045	955,745	150,000	2,773,300	450,000	150,000	150,000	1,150,000	150,000	150,000	150,000	150,000	5,423,300
Financing Plan													
CMAQ/RSTP	1,605,745	605,745	-	-	-	-	-	1,000,000	-	-	-	-	1,000,000
NVTA 30% Funds	1,500,000	-	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,500,000
NVTA 70% Funds	150,000	150,000	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants	200,000	200,000	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants (Unsecured)	2,923,300	-	-	2,623,300	300,000	-	-	-	-	-	-	-	2,923,300
Financing Plan Total	6,379,045	955,745	150,000	2,773,300	450,000	150,000	150,000	1,150,000	150,000	150,000	150,000	150,000	5,423,300
Operating Impact	1,320,500	-	-	130,000	133,900	137,900	142,100	146,300	150,700	155,200	159,800	164,600	1,320,500

CHANGES FROM PRIOR YEAR CIP

Project funding increased, over the 10-year plan, by $2.8 million, including the addition of funding for FY 2034. The funding increase is due to adding $150,000 in NVTA 30% funds to each year, to support local matches for potential grant opportunities.

PROJECT DESCRIPTION & JUSTIFICATION

This project will fund DASH technology initiatives which will provide better operational data to both customers and planners. This project will also allow DASH to operate more efficiently and help to improve the overall DASH customer experience.

Phase I of this project funded the purchase of automated passenger counters (APC's), which greatly improve the quality of ridership reporting and any service planning decisions that result from that data, particularly in light of a fare free system that no longer has the ability to use SmarTrip card or fare box data. This initiative was completed in FY 2023. In previous years, the project also included improved real-time prediction software that feeds to customers via digital bus information stop signs, DASH Tracker, WMATA's BusETA, and third-party apps.

In FY 2023, DASH upgraded its scheduling software system, which has helped make DASH's scheduling, runcutting and rostering capabilities much more efficient. It has also allowed DASH to conduct scenario planning in a web-based, real-time environment that quickly shows the potential impacts of complex proposed changes. Moreover, this upgrade will provide a module for Daily Operations Management, which will allow the Operations team to manage staffing, fleet and payroll-related actions in a simpler, web-based interface for easier coordination and tracking.

For FY 2025, DASH is pursuing additional technological enhancements, including a business analytics platform that will give DASH much more insight into on-time performance, running times and bus speeds. Additional future projects may include: real-time bus capacity information for customers, onboard passenger information displays, replacement/expansion of real-time information displays at stops, smart charge management systems for new electric buses, and the replacement/upgrade of the existing DASH CAD/AVL (Computer-Aided Dispatch/Automated Vehicle Locator) system, which is expected to reach the end of its useful life in the next two years.

DASH has been proactive in piloting technology through grant opportunities. NVTA 30% funding to provide the local match for these grants has been included annually for these grant opportunities.

This project is being coordinated with the City's Smart Mobility Program and other transit and street technology enhancement projects.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION	ADDITIONAL OPERATING IMPACTS
Smart Mobility Program, Alexandria Transit Vision Plan, Alexandria Mobility Plan	Annual fee for licensing and support of data systems implemented by this project.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INTEGRATION

DOCUMENT SUBSECTION:	Smart Mobility	PROJECT LOCATION:	Citywide
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services	REPORTING AREA:	Citywide
		PROJECT CATEGORY:	3
		ESTIMATE USEFUL LIFE:	Varies

Intelligent Transportation Systems (ITS) Integration												
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	**20,679,240**	**18,244,240**	**2,435,000**	-	-	-	-	-	-	-	-	-	**2,435,000**
Financing Plan													
Cash Capital	37,629	37,629	-	-	-	-	-	-	-	-	-	-	-
CMAQ/RSTP	3,770,189	1,335,189	2,435,000	-	-	-	-	-	-	-	-	-	2,435,000
State/Federal Grants	14,498,892	14,498,892	-	-	-	-	-	-	-	-	-	-	-
TIP	2,372,530	2,372,530	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	**20,679,240**	**18,244,240**	**2,435,000**	-	-	-	-	-	-	-	-	-	**2,435,000**
Operating Impact	360,000	-	-	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	360,000

CHANGES FROM PRIOR YEAR CIP

Project funding increased, over the 10-year plan, by $49,600 to reflect the latest grant funding amount for the project.

PROJECT DESCRIPTION & JUSTIFICATION

This project provides funding for the design and installation of upgrades to the City's Smart Mobility initiative, which keeps City streets safe and running smoothly, while also laying the groundwork for emerging technologies that will shape transportation in the future. Completion of this project will replace much of the City's 30-year old traffic signal communications and allow public safety departments to monitor real time conditions on the City's roadway network. TES Staff is working with the ITS Department to coordinate work with the Municipal Fiber Project and combine conduit resources to achieve savings.

This project has five phases that largely focus on the design and installation of the City's fiber optic communications (broadband) network, which is laying cable that allows regional transportation agencies to communicate faster and more efficiently to manage traffic and respond to emergencies. The project also includes the installation of field devices such as traffic cameras, weather stations, and pavement temperature sensors which capture data that can be used to reduce congestion and better manage the City's roadways.

The five phases are as follows:
- Phase I (Complete): Installed a broadband fiber optic communications network, 11 traffic surveillance cameras, and a traffic management center.
- Phase II (Complete): Supplemented the first phase, expanded the broadband network and installed additional traffic surveillance cameras.
- Phase III: This phase includes connecting 50 traffic signals to the fiber optic backbone and running fiber optic cable along parts of Van Dorn Street and the western end of Duke Street. The design for Phase III began in FY 2019 and was completed in FY 2023. Construction began in FY 2024.
- Phase IV: This phase will add 10 more traffic surveillance cameras and connect 46 traffic signals to the fiber optic backbone. The design for Phase IV began in FY 2022 and construction is anticipated to begin in in FY 2025.
- Phase V: The funding becomes available in FY 2025, at which time design will begin. Phase V will focus mainly on installing a fiber optic backbone to the Mount Vernon Avenue corridor and connecting approximately 20 traffic signals to the fiber and installation of approximately 5 traffic survaillence cameras. This project may be constructed in coordination with the Municpal Fiber project to reduce costs and limit disturbance to the community.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION	ADDITIONAL OPERATING IMPACTS
Smart Mobility Framework Document/ Alexandria Mobility Plan	Additional equipment and devices will need to be included in operating budget

PARKING TECHNOLOGIES

DOCUMENT SUBSECTION: Smart Mobility
MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide
REPORTING AREA: Citywide

PROJECT CATEGORY: 3
ESTIMATE USEFUL LIFE: 6 - 10 Years

	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	2,062,190	2,062,190	-	-	-	-	-	-	-	-	-	-	-
Financing Plan													
CMAQ/RSTP	873,629	873,629	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants	1,188,561	1,188,561	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	2,062,190	2,062,190	-	-	-	-	-	-	-	-	-	-	-
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.

PROJECT DESCRIPTION & JUSTIFICATION

Parking and curbside management is high priority for the City. By using parking technology, the City can more effectively manage on and off-street parking resources and help provide more information about parking options to the community and visitors. This project provides funding for an analysis of potential parking technologies for the City, development of an implementation plan, and the deployment of new parking technologies. These technologies could include real time parking occupancy systems for on-street spaces and parking garages/lots, and web-based interactive maps, dynamic signage that illustrates real-time parking availability in city-owned garages, and other parking technologies. These technologies will mostly be off-the-shelf solutions requiring minimal design and engineering.

This project was fully funded with CMAQ/RSTP funds each year from FY 2018 – 2023. In FY 2021, the City completed a framework plan for implementation of parking technologies that prioritized specific categories of technologies to purchase and implement. The plan focuses on user experience and payment technologies as well as data collection and management systems.

Procurement of short-term parking technology installations began in FY 2022 and will continue each year thereafter as funding is available. In FY 2023, the City implemented new technology in City garages that improves the user's experience, including additional pay on foot machines and enhanced payment options to expedite the exit process. In FY 2024, real time signage indicating space availability was added to three of the garages and expanded validation options were made available. Staff also upgraded parking meters in Old Town that had reached the end of their useful life with new meters using updated technology for payment options and enforcement.

In FY 2025, staff will continue reviewing new and available parking technologies that could be implemented to help manage on and off-street parking, including additional options to improve parking information, tools to manage the curb and loading areas, EV charging infrastructure, new enforcement technologies, and enhance data analysis tools for policy making.

Once implemented, these technologies will support economic development by providing more efficient parking strategies for residents, employees, and visitors and will allow the City to manage parking and traffic assets more efficiently.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Alexandria Mobility Plan; T&ES Strategic Plan; Old Town Area Parking Study; Del Ray Parking Study

ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

SMART MOBILITY IMPLEMENTATION

DOCUMENT SUBSECTION:	Smart Mobility	PROJECT LOCATION:	Citywide
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services	REPORTING AREA:	Citywide
		PROJECT CATEGORY:	3
		ESTIMATE USEFUL LIFE:	Varies

Smart Mobility Implementation												
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	5,337,000	312,000	-	3,977,000	1,048,000	-	-	-	-	-	-	-	5,025,000
Financing Plan													
CMAQ/RSTP	5,025,000	-	-	3,977,000	1,048,000	-	-	-	-	-	-	-	5,025,000
State/Federal Grants	312,000	312,000	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	5,337,000	312,000	-	3,977,000	1,048,000	-	-	-	-	-	-	-	5,025,000
Operating Impact	101,400	-	-	10,000	10,300	10,600	10,900	11,300	11,600	11,900	12,200	12,600	101,400

CHANGES FROM PRIOR YEAR CIP

Project funding increased, over the 10-year plan, by $32,000 to reflect the latest grant funding amount for the project.

PROJECT DESCRIPTION & JUSTIFICATION

Smart mobility improves transportation through technology. The goal is to improve the user experience, safety and efficiency of streets, traffic signals, vehicles, parking systems, and other transportation infrastructure, while providing data to improve long-term decision-making about where and what changes to make. In the coming decade, converging innovations and technology are likely to play a transformative role in transportation. This Smart Mobility Implementation will focus on tools and specifications that enable data exchange between platforms, use cases, and jurisdictions. This data sharing groundwork will activate new levers for the city to manage transportation, including regional traffic planning, connected and autonomous vehicles, and dynamic curb management.

The Smart Mobility Implementation Project is funded by CMAQ/RSTP dollars beginning in FY 2026. These funds will be used to implement projects outlined in the Smart Mobility Framework Plan, which   will help to prioritize projects for implementation.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Smart Mobility Framework Plan, Alexandria Mobility Plan

ADDITIONAL OPERATING IMPACTS

It is anticipated that many of these services will be cloud based and future operating costs will be in the form of subscription-based services.

TRAFFIC ADAPTIVE SIGNAL CONTROL

DOCUMENT SUBSECTION:	Smart Mobility	PROJECT LOCATION:	Citywide
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services	REPORTING AREA:	Citywide
		PROJECT CATEGORY:	3
		ESTIMATE USEFUL LIFE:	Varies

Traffic Adaptive Signal Control													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	7,675,900	7,675,900	-	-	-	-	-	-	-	-	-	-	-
Financing Plan													
State/Federal Grants	7,675,900	7,675,900	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	7,675,900	7,675,900	-	-	-	-	-	-	-	-	-	-	-
Operating Impact	-		-	-	-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.

PROJECT DESCRIPTION & JUSTIFICATION

This two-phase project will install new control software, hardware, and detection systems to monitor traffic in real-time. It also funds the design and installation of traffic adaptive signal control systems. This project allows the City's traffic signals to adjust in real-time to changing traffic, helping to eliminate delays and reduce the incentive to cut through neighborhoods. Where possible, the adaptive signal equipment will also support other smart intersection efforts like near miss detection and origin-destination analysis.

Traffic Adaptive Signal Control is a key project in the Smart Mobility program. Traffic navigation apps have rendered traditional time of day traffic signal control obsolete. Navigation apps alter traffic behavior on a daily basis depending on regional traffic conditions. Traffic Adaptive Control will help take the City into the future. This project will utilize many of the features installed by previous Smart Mobility projects as well as seek to integrate with navigation apps and other data sources as well as incorporate artificial intelligence.

- Phase I: Phase I of this project will install a new server with a traffic signal management and adaptive system. Adaptive control will be implemented on both Van Dorn St and Duke Street. This work will involve installing vehicle detection as well as smart traffic signal controllers along the adaptive corridors. Design began in FY 2021, and construction is anticipated to begin in FY 2024.

- Phase II: This phase will expand adaptive control to other areas of the City as well as install communications infrastructure to traffic signals that are currently not served by fiber optic communications cable. As with Phase I, detection and smart traffic signal controllers will be installed along adaptive corridors. Based on initial results of Adaptive Phase 1, staff will identify the exact corridor and equipment that will be used in this Phase. Construction is expected to begin in January 2026, with project completion in August 2028.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Smart Mobility Framework Plan

ADDITIONAL OPERATING IMPACTS

A software support/maintenance agreement will be needed to maintain this asset.

TRAFFIC CONTROL UPGRADE

DOCUMENT SUBSECTION: Smart Mobility
MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: Citywide
REPORTING AREA: Citywide

PROJECT CATEGORY: 1
ESTIMATE USEFUL LIFE: Varies

Traffic Control Upgrade												
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	3,758,200	713,000	202,800	208,800	215,000	221,400	228,200	235,100	242,200	491,700	500,000	500,000	3,045,200
Financing Plan													
Cash Capital	3,708,200	663,000	202,800	208,800	215,000	221,400	228,200	235,100	242,200	491,700	500,000	500,000	3,045,200
Private Capital Contributions	50,000	50,000	-	-	-	-	-	-	-	-	-	-	-
Financing Plan Total	3,758,200	713,000	202,800	208,800	215,000	221,400	228,200	235,100	242,200	491,700	500,000	500,000	3,045,200
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

Funding added for FY 2034.

PROJECT DESCRIPTION & JUSTIFICATI

The Traffic Control Upgrade project funds ongoing capital maintenance, upgrades, support and required hardware associated with implementation of the City's Smart Mobility initiative, in order to keep those assets in a good state of repair. It is also a strategic project to ensure that our assets are versatile and capable of supporting future technology deployments.

The project supports necessary technology upgrades and software/system support contracts associated with the City's traffic surveillance cameras, broadband fiber optic communications network and hardware/systems in the management center. Additionally, this project provides funding for emergency repairs and replacement in cases of equipment failure of the existing traffic control system.

In FY 2025 this project will provide the annual support contracts for the City's Uninterrupted Power Supply (UPS), and support the traffic signal control system, video management system, and a new redundant edge switch. In addition, deployment of cellular communications to out laying traffic signals where it is not cost effective to connect with fiber optic cable may be installed if funding is available.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Alexandria Mobility Plan, Smart Mobility Framework

ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.

TRAFFIC MANAGEMENT CENTER

DOCUMENT SUBSECTION: Smart Mobility
MANAGING DEPARTMENT: Department of Transportation and Environmental Services

PROJECT LOCATION: 2900 Business Center Dr
REPORTING AREA: Citywide

PROJECT CATEGORY: 3
ESTIMATE USEFUL LIFE: Varies

Traffic Management Center												
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	1,200,000	-	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	1,200,000
Financing Plan													
Cash Capital	1,200,000	-	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	1,200,000
Financing Plan Total	1,200,000	-	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	1,200,000
Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

New project added to FY 2025 - FY 2034 CIP.

PROJECT DESCRIPTION & JUSTIFICATION

This project provides funding for the sustained operation of the City's Traffic Management Center (TMC). The TMC is used as the Departmental Operations Center (DOC) during weather and traffic events. The TMC/DOC will be critical to support signal management as the Smart Mobility program deploys more technology and links to the infrastructure installed through the Intelligent Transportation Systems (ITS) project. The TMC will also play a key role in data collection for traffic studies and traffic prediction as well as collaboration with surrounding agencies, such as VDOT, Arlington, and Washington D.C.. As Alexandria adapts to new and unexpected forms of travel on city roads, the TMC will enable staff to leverage data to increase safety, accessibility, and efficiency.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION	ADDITIONAL OPERATING IMPACTS
Smart Mobility Plan	TBD

TRANSIT SIGNAL PRIORITY

DOCUMENT SUBSECTION:	Smart Mobility
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services

PROJECT LOCATION:	Citywide
REPORTING AREA:	Citywide
PROJECT CATEGORY:	3
ESTIMATE USEFUL LIFE:	Varies

Transit Signal Priority													
	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	3,365,491	1,629,491	1,736,000	-	-	-	-	-	-	-	-	-	1,736,000
Financing Plan													
NVTA 30% Funds	60,000	60,000	-	-	-	-	-	-	-	-	-	-	-
NVTA 70% Funds	1,195,491	1,195,491	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants	374,000	374,000	-	-	-	-	-	-	-	-	-	-	-
State/Federal Grants (Smartscale)	1,736,000	-	1,736,000	-	-	-	-	-	-	-	-	-	1,736,000
Financing Plan Total	3,365,491	1,629,491	1,736,000	-	-	-	-	-	-	-	-	-	1,736,000
Operating Impact	153,000	-	-	13,000	14,000	15,000	16,000	17,000	18,000	19,000	20,000	21,000	153,000

CHANGES FROM PRIOR YEAR CIP

No changes from prior CIP.

PROJECT DESCRIPTION & JUSTIFICATION

This project will install Transit Signal Priority (TSP) on priority transit corridors throughout the City. TSP allows buses to request priority at intersections, thereby reducing wait time for passengers. This also allows transit vehicles to bypass congestion and offer more reliable services, making transit faster, easier and more appealing as a travel option. An additional benefit of installing TSP infrastructure is that emergency vehicles can utilize this equipment to request preemption at intersections. Technology is being installed in emergency vehicles to allow them to respond to emergencies with less delays by utilizing the installed TSP.

The existing DASH bus fleet has been retrofitted with TSP equipment as the City continues to upgrade traffic signals with TSP on corridors throughout the City, and all new buses are equipped with TSP technology.

TSP has been installed at 52 traffic signals within the City. These signals are on major transit corridors including Seminary Road, King Street, Duke Street, Van Dorn Street and Beauregard Street. The City is coordinating TSP implementation with WMATA and DASH and considering future technology to further enhance performance of the transit system.

In future phases of this project, TSP will also be installed along the high-capacity transit corridors when those projects are constructed. Future funding is anticipated to be requested to install additional TSP equipment at intersections in key transit corridors across the City, including King Street, Duke Street, Van Dorn Street, Seminary Road and Beauregard Street. This funding also supports installing retrofitted TSP equipment on any remaining DASH buses that are not outfitted with TSP technology.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

Smart Mobility Framework Plan, Alexandria Transit Vision Plan

ADDITIONAL OPERATING IMPACTS

Operating costs include annual support fees that must be paid to the vendor for ongoing maintenance/support/licensing for TSP software/hardware on buses and intersections

TRANSPORTATION TECHNOLOGIES

DOCUMENT SUBSECTION:	Smart Mobility	
MANAGING DEPARTMENT:	Department of Transportation and Environmental Services	

PROJECT LOCATION:	Citywide
REPORTING AREA:	Citywide
PROJECT CATEGORY:	3
ESTIMATE USEFUL LIFE:	Varies

Transportation Technologies

	A (B + M)	B	C	D	E	F	G	H	I	J	K	L	M (C:L)
	Total Budget & Financing	Prior Appropriations	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Total FY 2025 - FY 2034
Expenditure Budget	4,800,412	1,885,612	281,500	-	298,500	309,500	316,800	326,300	336,100	336,100	350,000	360,000	2,914,800
Financing Plan													
GO Bonds	115,000	115,000	-	-	-	-	-	-	-	-	-	-	-
TIP	4,685,412	1,770,612	281,500	-	298,500	309,500	316,800	326,300	336,100	336,100	350,000	360,000	2,914,800
Financing Plan Total	4,800,412	1,885,612	281,500	-	298,500	309,500	316,800	326,300	336,100	336,100	350,000	360,000	2,914,800
Operating Impact	-	-	-		-	-	-	-	-	-	-	-	-

CHANGES FROM PRIOR YEAR CIP

Funding added for FY 2034.

PROJECT DESCRIPTION & JUSTIFICATION

This project funds the deployment of small-scale transportation technology projects to improve efficiency of the transportation infrastructure including parking technology, traffic signals and signs. This technology will improve the reliability and integrity of future transportation studies and informed decision making. These technologies will also contribute to the engineering improvements being implemented as part of the City's Vision Zero and Complete Streets Programs as well as parking technologies to better manage on-street and garage parking.

Prior year funding has been used to upgrade city parking meter modems from 2G to 3G and then from 3G to 4G to ensure continued operation and reliability as cellular providers phase out 2G and 3G service. It has also been used to collect data and install signal detection, parking technologies, and the City's first pavement sensors to assist in snow removal operations.

Funding has previously been used to deploy pavement sensors, parking garage technology, assess vehicle electrification needs and support data collection efforts that will enable better analysis of traffic trends and real time decision making. Funds were also used to pilot signal detection technology to evaluate various systems. The possibility of connecting some of the City's remote traffic signals to the traffic center using wireless communications was previously evaluated and could be deployed in FY 2025. In FY 2023, additional parking technology was deployed in City owned garages. The City continues to contract with data providers that analyze traffic and parking.

Additionally, the City partnered with Virginia Tech Transportation Institute (VTTI) to deploy Smart Intersection technologies to aid in understanding the contributing factors of safety issues for Vulnerable Road Users (VRU's) by installing devices from different vendors at the E. Glebe Road and Potomac Avenue intersection to understand the capabilities and the potential for future deployments at other intersections throughout the City. These devices collect data regarding driver behavior, VRU behavior, risk assessment, and travel data and trends. The result of this pilot will be complete in late 2025.

EXTERNAL OR INTERNAL ADOPTED PLAN OR RECOMMENDATION

N/A

ADDITIONAL OPERATING IMPACTS

No additional operating impacts identified at this time.