

# Traffic Improvements

# PROGRAM DESCRIPTION AND OBJECTIVES

The objective of the Traffic Improvements Program is to mitigate traffic congestion, improve pedestrian safety, and improve traffic flow on the County's roadway network through congestion mitigation projects, intersection improvements, Advanced Transportation Management System (ATMS) technologies, and efficient traffic signal operation. These ongoing projects increase the ability to safely and efficiently move people and goods throughout Montgomery County and may help defer the need to expand existing infrastructure.

Two projects in the Traffic Improvements Capital Program, <u>Neighborhood Traffic Calming</u> and <u>Streetlighting</u>, began as components of Renew Montgomery, a comprehensive program to improve the infrastructure of older neighborhoods to assure effective, safe, and attractive vehicular and pedestrian access. These projects have now evolved to provide associated improvements Countywide.

## HIGHLIGHTS

- Increase annual funding for <u>Intersection and Spot Improvements</u>, <u>Pedestrian Safety Program</u>, and <u>Traffic Signals</u> to support the Vision Zero initiative.
- Increase funding in <u>Streetlighting</u> to upgrade approximately 26,000 streetlight fixtures to light-emitting diodes (LED) through an
  energy savings performance contract.
- Continue efforts to modernize central traffic signal control system to provide additional capabilities and tools to optimize traffic flow.
- Continue efforts to provide guardrails and streetlights.
- Continue efforts to provide pedestrian and traffic safety improvements.

# PROGRAM CONTACTS

Contact Fred Lees of the Department of Transportation at 240.777.2190 or Alison Dollar of the Office of Management and Budget at 240.777.2769 for more information regarding this department's capital budget.

# CAPITAL PROGRAM OVERVIEW

The Recommended FY19-24 Traffic Improvements Capital Program includes 10 ongoing projects totaling \$106.2 million in the six-year period. This represents an increase of \$22.5 million, or 27 percent from the \$83.7 million included in the FY17-22 amended program. The increase is due to the initiative to upgrade approximately 26,000 streetlight fixtures to light-emitting diodes (LED) and increased funding in Vision Zero related projects.

# VISION ZERO

Vision Zero expands upon the County Executive's existing Pedestrian Safety initiative to address all traffic-related injuries and fatalities. Under the Two-Year Vision Zero action plan, the County will focus on County roads and continue working with the state of Maryland to reduce injuries and fatalities on state roads. The goal is to reduce severe and fatal traffic related injuries by 35 percent by 2019. At the same time, the plan calls for developing a Ten-Year Action Plan to eliminate severe and fatal collisions in Montgomery County by 2030. For further details, go to <a href="https://www.montgomerycountymd.gov/visionzero/">https://www.montgomerycountymd.gov/visionzero/</a>.



# Advanced Transportation Management System (P509399)

CategoryTransportationDate Last Modified01/04/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

## EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	14,163	13,101	-	1,062	177	177	177	177	177	177	-
Land	1	1	-	-	-	-	-	-	-	-	-
Site Improvements and Utilities	40,563	29,719	2,858	7,986	1,331	1,331	1,331	1,331	1,331	1,331	-
Construction	194	194	-	-	-	-	-	-	-	-	-
Other	7,644	7,055	589	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	62,565	50,070	3,447	9,048	1,508	1,508	1,508	1,508	1,508	1,508	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Current Revenue: Mass Transit	8,564	8,064	500	-	-	-	-	-	-	-	-
Federal Aid	2,504	2,504	-	-	-	-	-	-	-	-	-
G.O. Bonds	8,396	8,396	-	-	-	-	-	-	-	-	-
Contributions	95	95	-	-	-	-	-	-	-	-	-
Current Revenue: Cable TV	2,241	2,241	-	-	-	-	-	-	-	-	-
Current Revenue: General	24,666	15,171	447	9,048	1,508	1,508	1,508	1,508	1,508	1,508	-
PAYGO	2,226	2,226	-	-	-	-	-	-	-	-	-
Recordation Tax Premium (MCG)	2,500	-	2,500	-	-	-	-	-	-	-	-
State Aid	10,873	10,873	-	-	-	-	-	-	-	-	-
Transportation Improvement Credit	500	500	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	62,565	50,070	3,447	9,048	1,508	1,508	1,508	1,508	1,508	1,508	-

#### OPERATING BUDGET IMPACT (\$000s)

Impact Type	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Maintenance	525	25	50	75	100	125	150
Energy	105	5	10	15	20	25	30
Program-Staff	600	50	50	100	100	150	150
Program-Other	36	3	3	6	6	9	9
NET IMPACT	1,266	83	113	196	226	309	339
FULL TIME EQUIVALENT (FTE)		1	1	2	2	3	3

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	308	Year First Appropriation	FY93
Appropriation FY 20 Request	1,508	Last FY's Cost Estimate	60,749
Cumulative Appropriation	54,717		
Expenditure / Encumbrances	52,145		
Unencumbered Balance	2,572		

# Project Description

This project provides for the Advanced Transportation Management System (ATMS) in the County. The ATMS deploys the infrastructure elements to conduct real-time management and operations of the County's transportation system. Twenty-two National Intelligent Transportation Architecture market packages have been identified for deployment of the ATMS. Each of these market packages is considered a subsystem of the ATMS program and may include several elements. These subsystems are identified in the ATMS Strategic Deployment Plan dated February 2001, revised July 2011. One aspect of this project will focus on improving pedestrian walkability by creating a safer walking environment, utilizing selected technologies, and ensuring Americans with Disabilities Act (ADA) compliance.

# Cost Change

Cost increase due to the addition of FY23 and FY24 to this ongoing level-of-effort project partially offset by FY18 reductions related to a FY18 savings plan.

# Project Justification

ATMS provides real-time monitoring, control, and traveler information in an effort to reduce traffic congestion and travel time, improve safety, and defer the need to construct new roads. ATMS emphasizes safety and efficiency of mobility to include mode, route, and travel time choices. ATMS supports public safety and directly impacts the movement of people and goods throughout the County's transportation system. This project was initiated in response to a growing demand to enhance options and amenities within the County's transportation network.

# Other

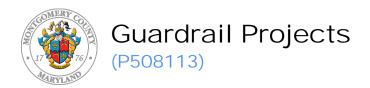
This project includes the traffic element that focuses on reducing traffic congestion and travel time and improving safety. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

# Disclosures

Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

# Coordination

Developers, Department of Technology Services, Department of Police, Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Fibernet, Maryland State Highway Administration, Virginia Department of Transportation, Other Local Governments, Other Private Entities, Traffic Signals project, Traffic Signal System Modernization Project, Montgomery County Pedestrian Safety Advisory Committee, Citizen's Advisory Boards, Montgomery County Planning Board



CategoryTransportationDate Last Modified12/20/17SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	727	84	169	474	79	79	79	79	79	79	-
Site Improvements and Utilities	2,452	836	200	1,416	236	236	236	236	236	236	-
Construction	4	4	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	3,183	924	369	1,890	315	315	315	315	315	315	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	3,183	924	369	1,890	315	315	315	315	315	315	-
TOTAL FUNDING SOURCES	3,183	924	369	1,890	315	315	315	315	315	315	-

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	315	Year First Appropriation	FY81
Appropriation FY 20 Request	315	Last FY's Cost Estimate	2,553
Cumulative Appropriation	1,293		
Expenditure / Encumbrances	944		
Unencumbered Balance	349		

# Project Description

This project provides for: 1) installation of guardrail where they are determined to be required; 2) upgrading identified deficient and/or non-compliant end treatments to meet current Maryland State Highway Administration (MSHA) standards; 3) establishment of a 25-year life-cycle replacement program; and 4) replacement of guardrail damaged beyond repair in crashes.

# Cost Change

Cost increase due to the addition of FY23 and FY24 to this ongoing level-of-effort project.

# Project Justification

Guardrails reduce the severity of run-off-the-road accidents, prevent collisions with fixed objects and protect embankments. Damaged or missing guardrails and deficient end treatments present a hazard to motorists, cyclists, and pedestrians. Guardrails

have a finite service life and must be replaced at the end of this service life or when damaged in order to continue to provide safety benefits for all users. The March 2010, Report of the Infrastructure Maintenance Task Force, confirmed this and identified the need for guardrail life-cycle replacement. The existing tapered and buried guardrail end treatments provide a ramp for errant vehicles and do not meet current MSHA standards. A study was completed to identify these substandard or deficient end treatments and to replace them to meet modern crash attenuation standards.

## Disclosures

Expenditures will continue indefinitely.

# Coordination

Federal Highway Administration, Maryland State Highway Administration, Montgomery County Public Schools



# Intersection and Spot Improvements (P507017)

CategoryTransportationDate Last Modified01/04/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	4,938	2,061	285	2,592	336	336	360	360	600	600	-
Land	90	8	22	60	10	10	10	10	10	10	-
Site Improvements and Utilities	3,319	2,059	-	1,260	200	200	230	230	200	200	-
Construction	11,253	58	2,731	8,464	1,298	1,298	1,400	1,400	1,534	1,534	-
Other	4	4	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	19,604	4,190	3,038	12,376	1,844	1,844	2,000	2,000	2,344	2,344	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	13,545	3,087	1,082	9,376	1,344	1,344	1,500	1,500	1,844	1,844	-
Intergovernmental	23	-	23	-	-	-	-	-	-	-	-
Contributions	482	-	482	-	-	-	-	-	-	-	-
Current Revenue: General	5,554	1,103	1,451	3,000	500	500	500	500	500	500	-
TOTAL FUNDING SOURCES	19,604	4,190	3,038	12,376	1,844	1,844	2,000	2,000	2,344	2,344	-

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	1,844	Year First Appropriation	FY70
Appropriation FY 20 Request	1,844	Last FY's Cost Estimate	14,604
Cumulative Appropriation	7,228		
Expenditure / Encumbrances	5,424		
Unencumbered Balance	1,804		

# **Project Description**

This project provides for planning and reconstructing various existing intersections in Montgomery County and for an annual congestion study to identify locations where there is a need for congestion mitigation. The project also includes the identification and implementation of corridor modifications and traffic calming treatments to enhance pedestrian safety. At these identified locations either construction begins immediately or detailed design plans are prepared and developed into future projects. The projects listed below reflect their current status.

# Cost Change

Cost increase due to enhanced level of effort funding in FY21 and FY22 to address congestion relief and safety issues related to Vision Zero and the addition of FY23 and FY24.

# Project Justification

Ongoing studies conducted by the Division of Traffic Engineering and Operations indicate that many corridors and intersections need traffic calming modifications as well as capacity and/or vehicular and pedestrian safety improvements.

### Other

Examples of recently completed and soon to be completed projects: Riffle Ford Road at Darnestown Road, Seven Locks Road at Tuckerman Lane, Clarendon Road at Fairfax Road, Bradmoor Drive at Roosevelt Street, MacArthur Boulevard at Oberlin Avenue. Projects scheduled for completion in FY19 and beyond include Democracy Boulevard at Westlake Drive, Cheshire Drive at Old Georgetown Road, Great Seneca Highway at Muddy Branch Road, Judson Road at Henderson Avenue, Randolph Road at Parklawn Drive, Brink Road at Wildcat Road, Montgomery Village Avenue at Lake Shore Drive, and several other sites. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

## Fiscal Note

Expenditures include \$500,000 per year for corridor and intersection modifications in support of Strategy No. 4 of the County Executive's Pedestrian Safety Initiative.

### Disclosures

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely.

# Coordination

Maryland-National Capital Park and Planning Commission, Maryland State Highway Administration, U.S. Army Corps of Engineers, Washington Metropolitan Area Transit Authority, Developers, Montgomery County Pedestrian Safety Advisory Committee, Citizen's Advisory Boards



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#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	840	185	211	444	74	74	74	74	74	74	-
Site Improvements and Utilities	2,404	626	362	1,416	236	236	236	236	236	236	-
Other	7	7	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	3,251	818	573	1,860	310	310	310	310	310	310	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	3,251	818	573	1,860	310	310	310	310	310	310	-
TOTAL FUNDING SOURCES	3,251	818	573	1,860	310	310	310	310	310	310	-

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	310	Year First Appropriation	FY95
Appropriation FY 20 Request	310	Last FY's Cost Estimate	2,631
Cumulative Appropriation	1,391		
Expenditure / Encumbrances	936		
Unencumbered Balance	455		

# Project Description

This project provides for the planning, design, and construction of physical traffic control features in residential neighborhoods. Traffic calming features such as traffic circles and islands, curb extensions, speed humps, physical and painted lane narrowing devices, etc., are used to maintain and improve the safety and livability of residential neighborhoods by addressing issues of aggressive driving and excessive speeds and volumes.

# Cost Change

Cost increase due to the addition of FY23 and FY24 to this ongoing level-of-effort project. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

Project Justification

Montgomery County has developed justification criteria, implementation procedures, and construction standards for administering traffic calming improvements along neighborhood streets that are consistent with those recommended and/or adopted by the Federal Highway Administration, the Institute of Transportation Engineers, and the Maryland Traffic Engineers Council. Neighborhood traffic control has received steadily increasing emphasis, and the speeding and unsafe driving practices by motorists on residential streets in our neighborhoods continue to generate numerous requests for traffic calming measures by residents. The neighborhood traffic calming project enables the Department of Transportation (DOT) to evaluate requests for traffic calming actions, develop and design appropriate traffic calming measures, and fund the implementation of a variety of physical as well as control type traffic calming tools to encourage safer driving behavior in neighborhoods. These measures include the installation of speed humps, traffic circles, etc. Engineering investigations and the analysis of community support are conducted on a per-request basis to determine if the installation of traffic calming features on a street is warranted and appropriate.

#### Other

Projects originate with requests from citizens' associations, other neighborhood organizations, and/or public officials. Projects are constructed primarily by the Traffic Engineering and Operations Division, using contractors and/or in-house crews. Approximately 50 streets or neighborhoods are under study/review for future traffic calming projects each year. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

#### Disclosures

Expenditures will continue indefinitely.

### Coordination

Citizens' Associations, Fire and Rescue Service, Intersection and Spot Improvements Project, Montgomery County Pedestrian Safety Advisory Committee, Maryland-National Capital Park and Planning Commission



CategoryTransportationDate Last Modified01/04/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	8,160	6,380	-	1,780	270	270	270	270	350	350	-
Site Improvements and Utilities	5,836	4,568	-	1,268	192	192	192	192	250	250	-
Construction	14,283	996	3,135	10,152	1,538	1,538	1,538	1,538	2,000	2,000	-
Other	1,233	1,233	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	29,512	13,177	3,135	13,200	2,000	2,000	2,000	2,000	2,600	2,600	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	13,705	4,679	926	8,100	1,150	1,150	1,150	1,150	1,750	1,750	-
Current Revenue: General	12,925	5,616	2,209	5,100	850	850	850	850	850	850	-
PAYGO	2,782	2,782	-	-	-	-	-	-	-	-	-
State Aid	100	100	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	29,512	13,177	3,135	13,200	2,000	2,000	2,000	2,000	2,600	2,600	-

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	2,000	Year First Appropriation	FY03
Appropriation FY 20 Request	2,000	Last FY's Cost Estimate	22,712
Cumulative Appropriation	16,312		
Expenditure / Encumbrances	13,988		
Unencumbered Balance	2,324		

# **Project Description**

This project provides for the review and analysis of existing physical structures and traffic controls in order to make modifications aimed at improving safety and infrastructure for pedestrians and bicycles. This project provides for the construction of physical structures and/or installation of traffic control devices which include, but are not limited to: new crosswalks; pedestrian refuge islands; sidewalks; bus pull-off areas; fencing to channel pedestrians to safer crossing locations; bicycle signings and markings; relocating, adding, or eliminating bus stops; accessible pedestrian signals (countdown) or warning beacons; improving signage, etc. The improvements will be made in compliance with the requirements of the Americans with Disabilities Act (ADA). This project is data driven and supports the construction of improvements at and around schools identified in the Safe Routes to School program. The project also includes performing pedestrian safety audits at High Incidence Areas and implementing identified

physical improvements, education and outreach.

# Cost Change

Funding added each year to address pedestrian safety improvements associated with Vision Zero and larger capital projects identified through Safe Routes to School programs. Also increased due to the addition of FY23 and FY24 to this ongoing level-of-effort project.

# **Project Justification**

The County Executive's Blue Ribbon Panel on Pedestrian Safety identified the need to improve the walkability along Montgomery County roadways and, in particular, in the Central Business Districts (CBD) where there is a high concentration of pedestrians and mass transit ridership. The improvements proposed under this project will enhance and/or add to the County's existing infrastructure to increase the safety and comfort level for pedestrians, which in turn will encourage increased pedestrian activity and safer access to schools and mass transit. The issue of pedestrian safety has been an elevated concern for pedestrians, cyclists, motorists, and public officials. To address this issue the County Executive's Pedestrian Safety Initiative has developed strategies and goals to make our streets walkable and pedestrian friendly. This project is intended to support the strategies for enhancing pedestrian safety by piloting new and innovative techniques for improving traffic control device compliance by pedestrians, motorists, and cyclists. Various studies for improvements will be done under this project with an emphasis on pedestrian safety and traffic circulation. A study of over 200 Montgomery County schools (Safe Route to Schools program) was completed in FY05. This study identified needs and prioritized schools based on the need for signage, pavement markings, circulation, and pedestrian accessibility.

#### Other

This project is intended to address the Engineering aspect of the Three E's concept (Engineering, Education, and Enforcement), which is one of the recommendations included in the final Blue Ribbon Panel on Pedestrian and Traffic Safety Report. Additional efforts to improve pedestrian walkability by creating a safer walking environment, utilizing selected technologies, and ensuring ADA compliance will be addressed under the following projects: Annual Sidewalk Program; Bus Stop Improvements; Intersection and Spot Improvements; Neighborhood Traffic Calming; Transportation Improvements for Schools; ADA Compliance; Transportation; Resurfacing; Primary/Arterial; Sidewalk and Infrastructure Revitalization; Streetlighting; Traffic Signals; and Advanced Transportation Management System. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

## Disclosures

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

# Coordination

Washington Metropolitan Area Transit Authority, Maryland-National Capital Park and Planning Commission, Mass Transit Administration, Maryland State Highway Administration, Wheaton Central Business District, Wheaton Regional Services Center, Commission on Aging, Commission on People with Disabilities, Montgomery County Pedestrian Safety Advisory Committee, Citizen's Advisory Boards, Various CIP Projects



# Streetlight Enhancements-CBD/Town Center (P500512)

CategoryTransportationDate Last Modified01/04/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	1,089	710	79	300	50	50	50	50	50	50	-
Site Improvements and Utilities	3,828	2,017	611	1,200	200	200	200	200	200	200	-
Other	13	13	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	4,930	2,740	690	1,500	250	250	250	250	250	250	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	4,495	2,497	498	1,500	250	250	250	250	250	250	-
Current Revenue: Urban District Bethesda	435	243	192	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	4,930	2,740	690	1,500	250	250	250	250	250	250	-

#### OPERATING BUDGET IMPACT (\$000s)

Impact Type	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Maintenance	63	3	6	9	12	15	18
Energy	63	3	6	9	12	15	18
NET IMPACT	126	6	12	18	24	30	36

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	250	Year First Appropriation	FY05
Appropriation FY 20 Request	250	Last FY's Cost Estimate	4,430
Cumulative Appropriation	3,430		
Expenditure / Encumbrances	2,944		
Unencumbered Balance	486		

# Project Description

This project provides for the evaluation and enhancement of streetlighting within and around Central Business Districts (CBD) and town centers where current lighting does not meet minimum Illuminating Engineering Society of North America (IESNA) standards. This project will fill in streetlighting; standardize streetlighting types; and replace sodium vapor lights with light

emitting diode (LED) lights.

Cost Change

Cost increase due to the addition of FY23 and FY24 to this ongoing level-of-effort project.

Project Justification

This project is needed to provide visibility and safety improvements in areas where there is a high concentration of pedestrians, bicyclists, and vehicles. Streetlighting to promote pedestrian safety is one of the items requested each year by the Citizens' Advisory Boards (CABs).

Other

Streetlighting in CBD's and town centers will also support the Montgomery County Planning Board (MCPB) priorities for County-wide pedestrian safety improvements and area specific lighting enhancements. Projects include: Bethesda CBD - Phase I completed Summer 2007; Long Branch (commercial area) - completed in FY10; Wheaton CBD - completed in FY11; Langley Park - completed in FY12; Odenthal Avenue - completed in FY13; Damascus Town Center - completed in FY14; Glenmont Metro Area - completed in FY15; Olney Town Center - completed in FY17; Bethesda Phase II - FY18-24 and beyond. This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

Disclosures

Expenditures will continue indefinitely.

Coordination

Potomac Electric Power Company, Baltimore Gas and Electric Company, Potomac Edison, Montgomery County Police Department, Community Associations, Urban Districts, Citizens' Advisory Boards, Maryland-National Capital Park and Planning Commission



CategoryTransportationDate Last Modified01/05/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	3,386	765	563	2,058	343	343	343	343	343	343	-
Site Improvements and Utilities	9,452	1,940	1,350	6,162	1,027	1,027	1,027	1,027	1,027	1,027	-
Other	18,000	-	-	18,000	9,000	9,000	-	-	-	-	-
TOTAL EXPENDITURES	30,838	2,705	1,913	26,220	10,370	10,370	1,370	1,370	1,370	1,370	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	12,838	2,705	1,913	8,220	1,370	1,370	1,370	1,370	1,370	1,370	-
Long-Term Financing	18,000	-	-	18,000	9,000	9,000	-	-	-	-	-
TOTAL FUNDING SOURCES	30,838	2,705	1,913	26,220	10,370	10,370	1,370	1,370	1,370	1,370	-

#### **OPERATING BUDGET IMPACT (\$000s)**

Impact Type	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Maintenance	84	4	8	12	16	20	24
Energy	63	3	6	9	12	15	18
NET IMPACT	147	7	14	21	28	35	42

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	10,370	Year First Appropriation	FY70
Appropriation FY 20 Request	10,370	Last FY's Cost Estimate	10,098
Cumulative Appropriation	4,618		
Expenditure / Encumbrances	3,181		
Unencumbered Balance	1,437		

# Project Description

This project provides for the installation and upgrading of streetlights countywide with an emphasis on residential fill in areas, high crime areas, pedestrian generator locations, and high accident locations, as well as the conversion of existing streetlights to a more energy-efficient technology. This project also provides for the replacement of streetlights that are knocked down, damaged,

or have reached the end of service life. Streetlights that pose safety concerns and are no longer functioning to the specifications of original installation are also replaced under this project.

The County is planning to upgrade approximately 26,000 streetlight fixtures to light-emitting diodes (LED) through an energy savings performance contract. Contracts performed by Energy Services Companies (ESCOs) have been used extensively by the federal government and other state and local jurisdictions to accomplish energy savings retrofits. Third party funding (bonds or commercial loans) covers the cost of the contract. The savings in energy and maintenance costs over the life of the new fixtures will pay for the replacement. Project installation will take approximately 24 months. A key feature of Energy Savings Performance Contracts (ESPC) is that no General Obligation (GO) bonds are required for the contract and construction costs. A financing mechanism is initiated to cover the cost of the contract and the repayment of the debt is guaranteed through the energy savings.

# Cost Change

Cost increase due to increased funding in FY19 and FY20 for an energy savings performance contract to install energy efficient LED streetlight fixtures and for the addition of FY23 and FY24 to this ongoing level-of-effort project.

# **Project Justification**

County resolution dated June 25, 1968, requires Montgomery County to provide for the installation of streetlights in those subdivisions that were platted prior to February 1, 1969, when the installation of streetlights was not a requirement of subdivision development. This project provides funds for these streetlight installations, as well as for lighting of the public right-of-way when the existing lighting is substandard to the extent that public safety is compromised. New streetlight plans are developed in conformance with established County streetlight standards and are normally implemented under contract with the pertinent local utility company. The March 2010 Report of the Infrastructure Maintenance Task Force, identified streetlighting in need of lifecycle replacement. Implementation of the ESCO project is consistent with the County's continuing objective to accomplish environmentally friendly initiatives, as well as limit the level of GO Bonds. The ultimate objectives are to save money in the long run, reduce our carbon footprint, and provide high-quality, dark sky compliant roadway and pedestrian lighting.

# Other

This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

# Fiscal Note

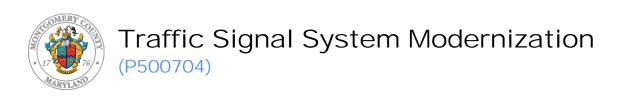
A financing mechanism is initiated to cover the cost of the contract and the repayment of the debt is guaranteed through the energy savings.

# Disclosures

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely.

# Coordination

Baltimore Gas and Electric Company, Potomac Edison, Verizon, Cable TV Montgomery, Maryland State Highway Administration, PEPCO, Washington Gas and Light, Washington Suburban Sanitary Commission, Pedestrian Safety Advisory Committee, Citizen's Advisory Boards, Maryland-National Capital Park and Planning Commission, Department of General Services.



CategoryTransportationDate Last Modified01/04/18SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

## EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	14,822	14,222	-	600	100	100	100	100	100	100	-
Site Improvements and Utilities	29,997	20,074	3,095	6,828	1,138	1,138	1,138	1,138	1,138	1,138	-
Construction	680	680	-	-	-	-	-	-	-	-	-
Other	967	125	842	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	46,466	35,101	3,937	7,428	1,238	1,238	1,238	1,238	1,238	1,238	-

## FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	15,494	15,494	-	-	-	-	-	-	-	-	-
Contributions	295	295	-	-	-	-	-	-	-	-	-
Current Revenue: General	9,899	534	1,937	7,428	1,238	1,238	1,238	1,238	1,238	1,238	-
Recordation Tax Premium (MCG)	8,778	6,778	2,000	-	-	-	-	-	-	-	-
State Aid	12,000	12,000	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	46,466	35,101	3,937	7,428	1,238	1,238	1,238	1,238	1,238	1,238	-

#### OPERATING BUDGET IMPACT (\$000s)

Impact Type	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Maintenance	54	3	5	8	10	13	15
Program-Staff	600	50	50	100	100	150	150
Program-Other	36	3	3	6	6	9	9
NET IMPACT	690	56	58	114	116	172	174
FULL TIME EQUIVALENT (FTE)		1	1	2	2	3	3

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	38	Year First Appropriation	FY07
Appropriation FY 20 Request	1,238	Last FY's Cost Estimate	45,190
Cumulative Appropriation	40,238		
Expenditure / Encumbrances	36,882		
Unencumbered Balance	3,356		

# **Project Description**

This project provides for the modernization of the County's aged traffic signal system. Phase I consisted of planning, requirements development, systems engineering, and testing. Phase II consists of acquisition of central system hardware and software, acquisition, and implementation of control equipment and communications for intersections, as well as reconfiguration of the communications cable plant. Phase I was completed in FY08. Phase II implementation commenced in FY09. As a result of the November 2009 failure of the existing system, Phase II was refined into two sub-phases, A and B, so that replacement of the existing system could be accelerated. Phase IIA encompassed critical work that was necessary to deactivate the existing system. Phase IIB includes all other work that is not critical to replacement of the existing system.

## Estimated Schedule

Phase I - completed FY07-08; Phase IIA - completed FY12; Phase IIB - FY13-16; ongoing Life Cycle Upgrades - FY17 and beyond.

# Cost Change

Cost increase due to the addition of FY23 and FY24 to this ongoing level-of-effort project partially offset by FY18 reductions related to a FY18 savings plan.

# Project Justification

The existing traffic signal control system, though it has been highly reliable, is an aging system dependent on dated technology. Central and field communications devices are obsolete and problematic to maintain. As the technologies employed in the Advanced Transportation Management System (ATMS) have advanced, it has become increasingly difficult to interface with the existing traffic signal control system (COMTRAC). Because of the limited functionality of COMTRAC, the system is not able to take advantage of the capabilities of the current generation of local intersection controllers. These capabilities provide a greater level of flexibility to manage traffic demands. In November 2009, the existing traffic signal system experienced a failure that caused significant congestion and delays throughout the County for nearly two days. This event led to an acceleration of the schedule to replace the existing system. The following reports were developed as part of the research, planning, and system engineering work on this project. These reports documented the existing condition and need to modernize the existing signal control system, as well as the evaluation and engineering of specific components of the replacement system: White paper on the Status and Future of the Traffic Control System in Montgomery County, March 2001; Concept of Operations (rev 1.4), October 2007; TSSM Requirements (rev g), October 2007; TSSM Communications Master Plan (rev c), February 2009; TSSM Risk Assessment and Analysis (rev e), April 2009. Given the effort to modernize the signal system and its infrastructure, it is important and prudent to take steps to prevent the system from becoming outdated. A proactive program to replace equipment by its "life cycle" usefulness is required given the dependency on technology driven devices and software to maintain traffic control capabilities and full redundancy fail-over systems. This assumes a level of effort (LOE) designation and funding be appropriated beginning in FY17.

### Fiscal Note

The county's traffic signal system supports approximately 800 traffic signals, about 550 of which are owned by the Maryland State Highway Administration (MSHA) and maintained and operated by the County on a reimbursement basis. MSHA plans to separately fund and implement other complementary work and intersection upgrades amounting to approximately \$12.5 million that are not reflected in the project costs displayed above. Project appropriations were reduced in FY09 (-\$106,000) and FY11 (-\$269,000) to reconcile the recall of a \$375,000 federal earmark that was originally programmed in FY07. MSHA has committed to provide \$12 million in State aid to this project. This aid was originally programmed during FY09-14, but did not materialize due to the State's fiscal situation. In addition \$2 million in State Aid was moved to the TSSM project from the State Transportation

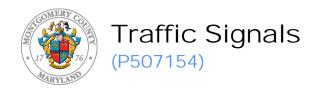
Participation (STP) CIP (No. 500722) in FY11 with repayment to STP programmed in FY17. In FY16, \$9,000 in Current Revenue was transferred from the Brookville Service Park CIP (#509928). In FY16, a funding switch of \$295,000 in Contributions added to this project, fully offsetting a similar amount in Current Revenue.

## Disclosures

Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

## Coordination

Advanced Transportation Management System, Fibernet, State Transportation Participation, Traffic Signals Project, Department of Technology Services, Maryland State Highway Administration



CategoryTransportationDate Last Modified12/22/17SubCategoryTraffic ImprovementsAdministering AgencyTransportationPlanning AreaCountywideStatusOngoing

## **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	12,098	7,148	-	4,950	825	825	825	825	825	825	-
Land	10	10	-	-	-	-	-	-	-	-	-
Site Improvements and Utilities	40,695	8,136	5,499	27,060	4,510	4,510	4,510	4,510	4,510	4,510	-
Construction	54	54	-	-	-	-	-	-	-	-	-
Other	596	596	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	53,453	15,944	5,499	32,010	5,335	5,335	5,335	5,335	5,335	5,335	-

## FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
G.O. Bonds	43,842	13,418	290	30,134	4,411	4,383	5,335	5,335	5,335	5,335	-
Recordation Tax Premium (MCG)	9,611	2,526	5,209	1,876	924	952	-	-	-	-	-
TOTAL FUNDING SOURCES	53,453	15,944	5,499	32,010	5,335	5,335	5,335	5,335	5,335	5,335	-

## OPERATING BUDGET IMPACT (\$000s)

Impact Type		Total Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Maintenance		252	12	24	36	48	60	72
Energy		504	24	48	72	96	120	144
Program-Staff		450	50	50	50	100	100	100
NET IMPACT	1	1,206	86	122	158	244	280	316
FULL TIME EQUIVALENT (FTE)			1	1	1	2	2	2

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	5,335	Year First Appropriation	FY71
Appropriation FY 20 Request	5,335	Last FY's Cost Estimate	40,783
Cumulative Appropriation	21,443		
Expenditure / Encumbrances	16,652		
Unencumbered Balance	4,791		

Project Description

This project provides for the design, construction, and maintenance of vehicular and pedestrian traffic signals and signal systems including: new and existing signals, reconstruction/replacement of aged and obsolete signals and components, auxiliary signs; Accessible Pedestrian Signals (APS), upgrades of the County's centrally-controlled computerized traffic signal system, and communications and interconnect into the signal system. \$150,000 is included each fiscal year for the installation of accessible pedestrian signals at five intersections to improve pedestrian safety for persons with disabilities. This will provide more easily accessible, raised buttons to press when crossing the road. Also, this effort provides audio cues to indicate when it is safe to cross.

# Cost Change

Cost increase due to enhanced level of effort funding to address major structural deterioration at many county owned traffic signals to support the Vision Zero initiative, and the addition of FY23 and FY24 to this ongoing project.

# Project Justification

The growth in County population and vehicular registrations continues to produce increasing traffic volumes. As a result, congestion levels and the number of accidents increase. This requires a continued investment in the traffic signal system to: increase intersection safety; accommodate changes in traffic patterns and roadway geometry; reduce intersection delays, energy consumption, and air pollution; and provide coordinated movement on arterial routes through effective traffic management and control, utilizing modern traffic signal technologies. Studies include: The December 2007 Pedestrian Safety Initiative and the March 2010 Report of the Infrastructure Maintenance Task Force which identified traffic signals in need of life-cycle replacement.

## Other

Approximately 40 projects are completed annually by a combination of contractual and County work crews. One aspect of this project focuses on improving pedestrian walkability by creating a safe walking environment, utilizing selected engineering technologies, and ensuring Americans with Disabilities Act (ADA) compliance. All new and reconstructed traffic signals are designed and constructed to include appropriate pedestrian features - crosswalks, curb ramps, countdown pedestrian signals, APS, and applicable signing. A significant portion of the traffic signal work will continue to be in the central business districts and other commercial areas, where costs are higher due to more underground utilities and congested work areas. Likewise, new signals in outlying, developing areas are more expensive due to longer runs of communication cable. Since FY97, the fiber optic interconnection of traffic signals has been funded through the Fibernet project.

This project also supports the County Executive's Vision Zero initiative which aims to reduce injuries and fatalities on all roads.

# Disclosures

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely.

# Coordination

Advanced Transportation Management System, Verizon, FiberNet CIP (No. 509651), Maryland State Highway Administration, Potomac Electric Power Company, Washington Gas and Light, Washington Suburban Sanitary Commission, Montgomery County Pedestrian Safety Advisory Committee, Citizens Advisory Boards, Maryland-National Capital Park and Planning Commission



# White Flint Traffic Analysis and Mitigation (P501202)

Category
SubCategory
Planning Area

Transportation
Traffic Improvements
North Bethesda-Garrett Park

Date Last Modified
Administering Agency

Transportation
Planning Stage

01/04/18

#### **EXPENDITURE SCHEDULE (\$000s)**

Cost Elements	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Planning, Design and Supervision	1,813	547	630	636	393	81	81	81	-	-	-
Site Improvements and Utilities	136	159	(23)	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	1,949	706	607	636	393	81	81	81	-	-	-

#### FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY17	Est FY18	Total 6 Years	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	Beyond 6 Years
Impact Tax	685	652	33	-	-	-	-	-	-	-	-
Current Revenue: General	1,264	54	574	636	393	81	81	81	-	-	-
TOTAL FUNDING SOURCES	1,949	706	607	636	393	81	81	81	-	-	-

#### APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 19 Request	162	Year First Appropriation	FY12
Appropriation FY 20 Request	81	Last FY's Cost Estimate	1,949
Cumulative Appropriation	1,544		
Expenditure / Encumbrances	748		
Unencumbered Balance	796		

# **Project Description**

This project is in direct response to requirements of the approved White Flint Sector Plan. It is composed of three components with the overall goal of mitigating the traffic impacts on communities and major intersections outside of and surrounding the White Flint Sector Plan area that will occur as a result of redevelopment densities approved under the new White Flint Sector Plan. These components include: (A) Cut-through traffic monitoring and mitigation; (B) Capacity improvements to address congested intersections; and (C) A study of strategies and implementation techniques to achieve the Sector Plan's modal split goals. The modal split study will plan and implement specific infrastructure projects to create an improved transit, pedestrian, and biking infrastructure, and programs needed to accomplish the mode share goals; determine funding sources for these strategies; and determine the scope and cost of project components.

# Estimated Schedule

Component A-access restrictions: bi-annual data collection: site specific studies to commence in FY17. Component B-

Intersection Mitigation: site specific preliminary engineering and concept plan development commenced in FY12 based on M-NCPPC Comprehensive Local Area Transportation Review (CLATR) evaluation. Component C- Modal Split Activities: transit, pedestrian, bicycle access, and safety studies in FY 12; data collection and updating Transportation Demand Management (TDM) information in FY12-13.

# **Project Justification**

Component A: The new White Flint Sector Plan area was approved on March 23, 2010. The plan allows for significantly higher density than the existing development. As a result neighborhoods surrounding the Sector Plan area could be potentially impacted by an increase in cut-through traffic. The approved Sector Plan states: Before any additional development can be approved, the following actions must be taken: Initiate development of plans for through-traffic access restrictions for the residential neighborhoods abutting the Sector Plan area, including traffic from future development in White Flint, and implement these plans if sufficient neighborhood consensus is attained. Component B: The approved plan did not address the possible negative impact on the roads/intersections outside of the Sector Plan boundary but the plan recognized that those impacts could occur. Therefore, major intersections along primary corridors leading into the Sector Plan area need to be evaluated and appropriate safety and capacity improvements identified and implemented to fulfill the vision of the plan. This component is not part of the phasing process but needs to be addressed to mitigate impacts from the Sector Plan. Component C: The plan also recognized that capacity improvements alone would not be sufficient to manage the increased traffic resulting from the higher densities within the Sector Plan area. The Sector Plan states: The following prerequisites must be met during Phase 1 before moving to Phase 2: Achieve thirty-four percent non-auto mode share for the Sector Plan area. Increasing the modal split within the White Flint Sector Plan boundary is an integral component to the overall success of the Plan's vision. Transit, pedestrian, bicycle access, safety improvements, and TDM planning and implementation efforts are required to facilitate White Flint's transition from a highly automobile oriented environment to a more transit, pedestrian, and bicycle friendly environment. A monitoring mechanism for the modal split will also be developed.

# Fiscal Note

Programmed impact taxes have already been collected from the White Flint Metro Station Policy Area (MSPA).

# Disclosures

A pedestrian impact analysis will be performed during design or is in progress.

# Coordination

Maryland-National Capital Park and Planning Commission, Maryland State Highway Administration, U.S. Army Corps of Engineers, Montgomery County Department of Permitting Services, Montgomery County Department of Environmental Protection, Montgomery County Pedestrian and Traffic Safety Advisory Committee, Citizen's Advisory Boards, Neighborhood Homeowner's Associations, Utility Companies, Civic Associations, White Flint Transportation Management District (TMD)