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Department of Public Works FY 2024 Budget Request Overview

Karen Henry, Director
May 9, 2023, 9 a.m.



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Our Mission

Provide safe drinking water in public service areas;

Manage the collection and processing of wastewater in public service areas;

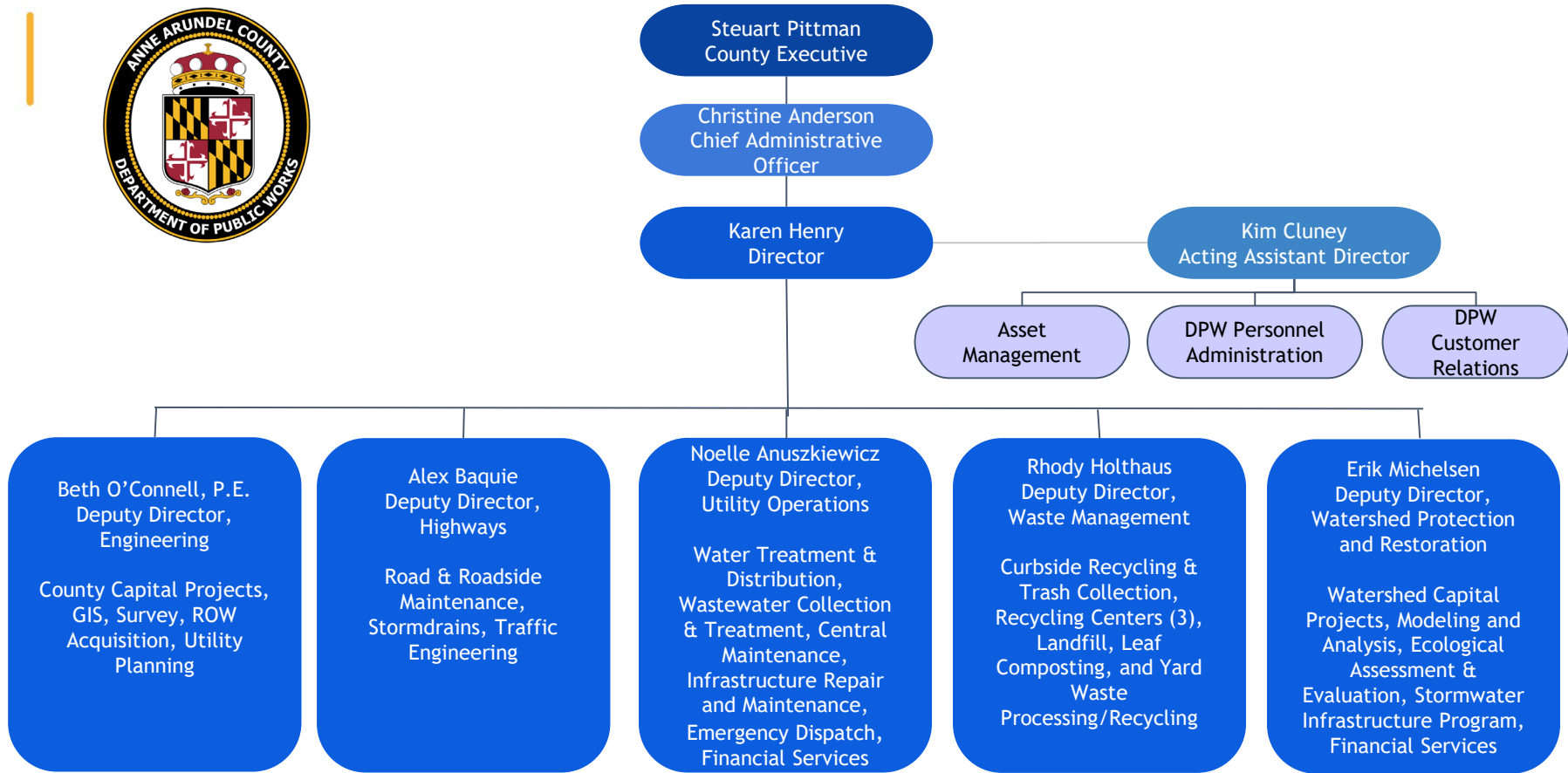
Manage collection, processing and recycling of solid waste;

Design and construct public works, including roads, bridges, governmental buildings and plants;

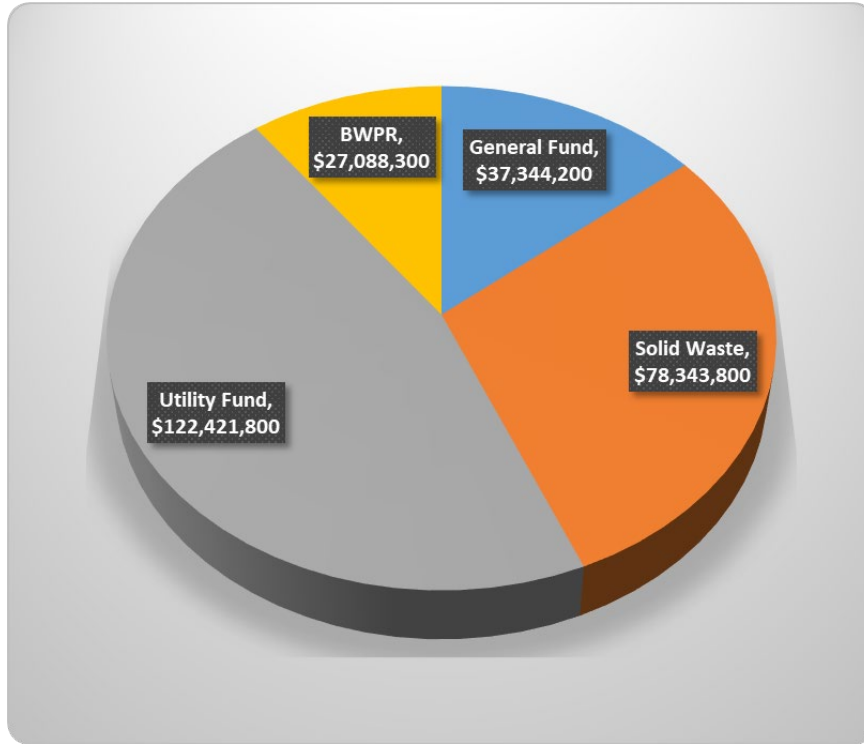
Construct, maintain and restore County roads;

Restore County waterways; and

Administer the County's MS-4 Stormwater Permit.



FY 2024 DPW Operating Budget By Fund Source



Budget Request
\$265,198,100

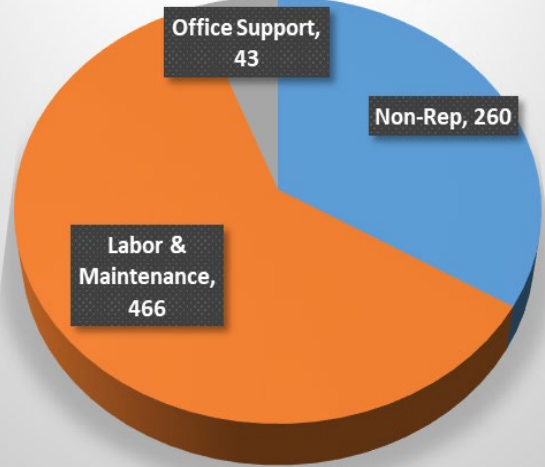
*Excludes Utility Debt Service Fund

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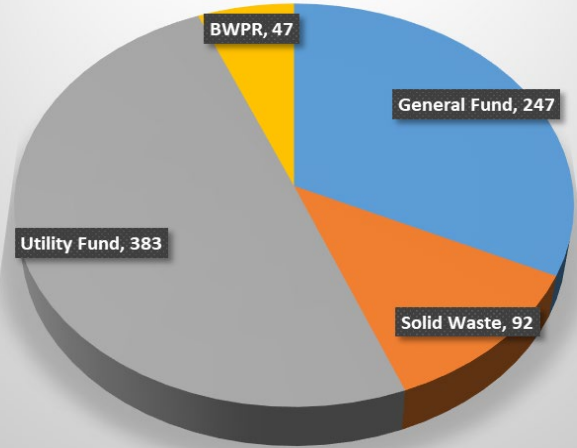


FY24 DPW Staff by Bargaining Unit, Fund

Positions by Bargaining Unit



Positions by Fund



Total Positions: 769 (Proposed)

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Driving Factors for DPW's Budget

- Public Safety
- Public Health
- Implementation of CIP Streamlining Plan
- Regulatory requirements
- Technology upgrades
- Maintenance, repair, and replacement of critical infrastructure
- Maintenance, repair, and replacement of equipment
- Efficient and cost effective operations



Significant Investment in Capital Projects, Requires Operating Investment for Success

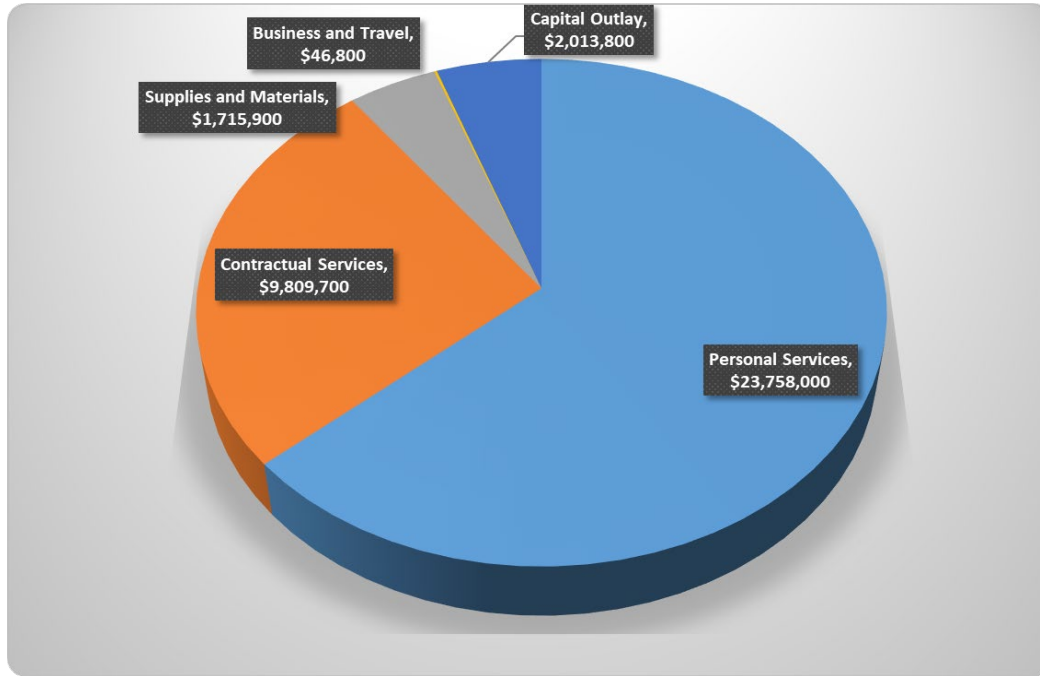
- VueWorks - \$4M
 - Asset management software to provide prioritization of repair and replacement of critical infrastructure
- Wastewater Treatment Plant Enhanced Nutrient Removal Upgrades - \$283M*
 - Upgrade of wastewater treatment plants to advanced level treatment in order to meet MDE nutrient reduction requirements
- Automated Meter Infrastructure (AMI) - \$31M
 - Increase efficiency, provide greater customer oversight of water consumption, increase revenue by reducing water loss and non-revenue water, reduce leak adjustments
- In order to fully realize the benefits of these improvements, the O&M costs must be funded



General Fund



General Fund (Bureaus of Highways & Engineering)



Budget Request:
\$37,344,200



New Position Requests in General Fund

- Two Engineer IIIs (CIP Project Engineers)
- Management Assistant II (CIP Budget Analyst)
- Assistant Chief, Road Operations



New Positions Total: \$392,400



Capital Budget Enhancements

- Recommendation of the CIP Delivery Workgroup
- Three project managers* and one Management Assistant II
- Reduce the workload of project managers from 18 to 14 projects, and increase project delivery efficiency.
- Continue contractual staff augmented by Heery

Examples of Projects:

Brooklyn Park Outdoor Rec Improvements

Fort Smallwood Park

Conway Road Improvements

Fire Equipment Maintenance Facility

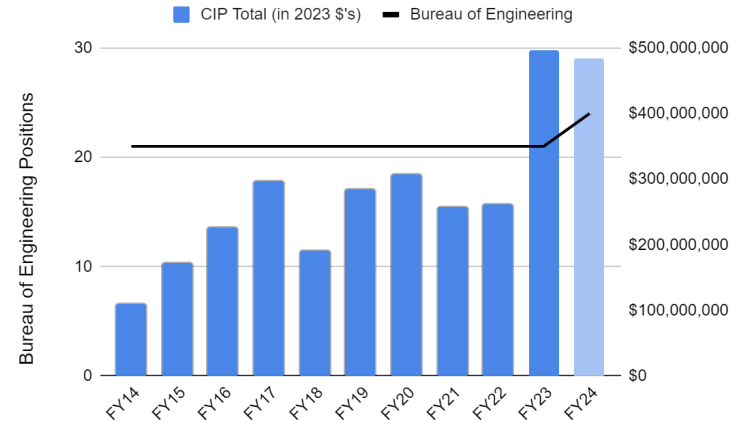
Park

Beverly Triton Nature Park

Glen Burnie Library

Crownsville Memorial

Bureau of Engineering Staffing and CIP Program



CIP Program Growth
(projects managed by Bureau of Engineering)

Assistant Chief Road Operations

- Addition of a new position, restoring the position of Assistant Chief, Road Operations in the Bureau of Highways.
- Will support the Chief of Road Operations in daily operations, investigate complex resident issues, manage customer service, direct emergency response operations, oversee regulatory compliance, implement training programs, develop maintenance management, procurement, and fleet programs.
- Mitigate Excessive Span of Control for over 1,835 miles of paved roads maintained by 140 full time staff, plus contractual support.



Highways Staffing History (30% Reduction)

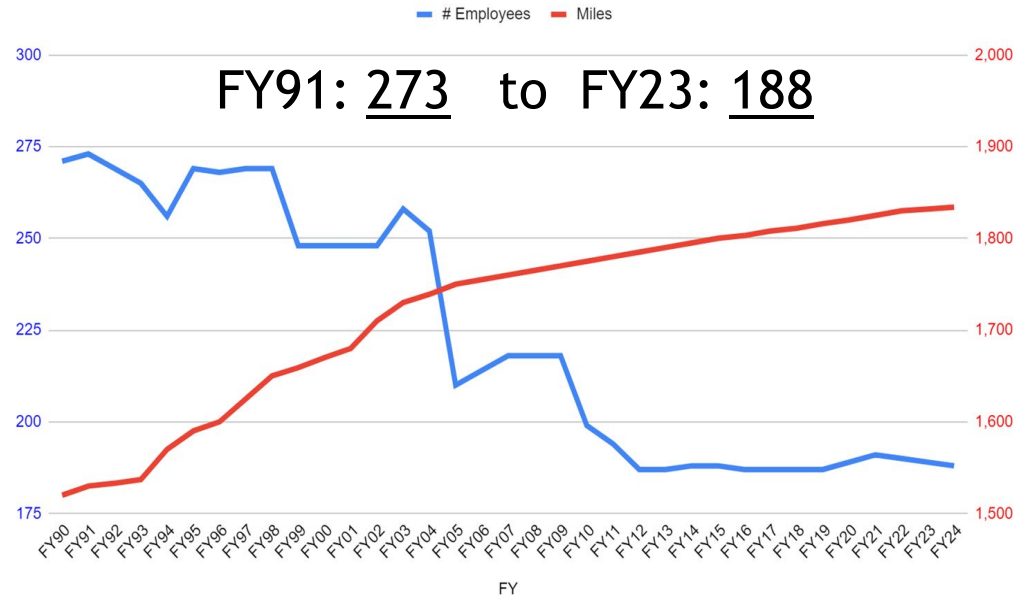
Notable staff reductions:

- FY94 (-9)
- FY99 (-21)
- FY04 (-9)
- FY05 (-40) *Transfer to FD*
- FY10 (-18)
- FY11 (-5)
- FY12 (-7)

Notable staff additions:

- FY20-22 (+3) Traffic Techs

BOH Employees vs Miles



General Fund: Heavy Equipment Replacement

- Address the increased costs and backlog for heavy equipment replacement
- \$4.8M backlog of current equipment that has exceeded its useful life
- We achieve the most efficient life cycle cost and replacement values when the average age of our fleet is at 8 years. The current average age is 9.15 years.
- Heavy equipment costs have increased by 30% and delivery times have been significantly extended due to COVID and supply chain shortages.



Heavy Equipment Replacement Cost: \$1,834,000



Anne Arundel County

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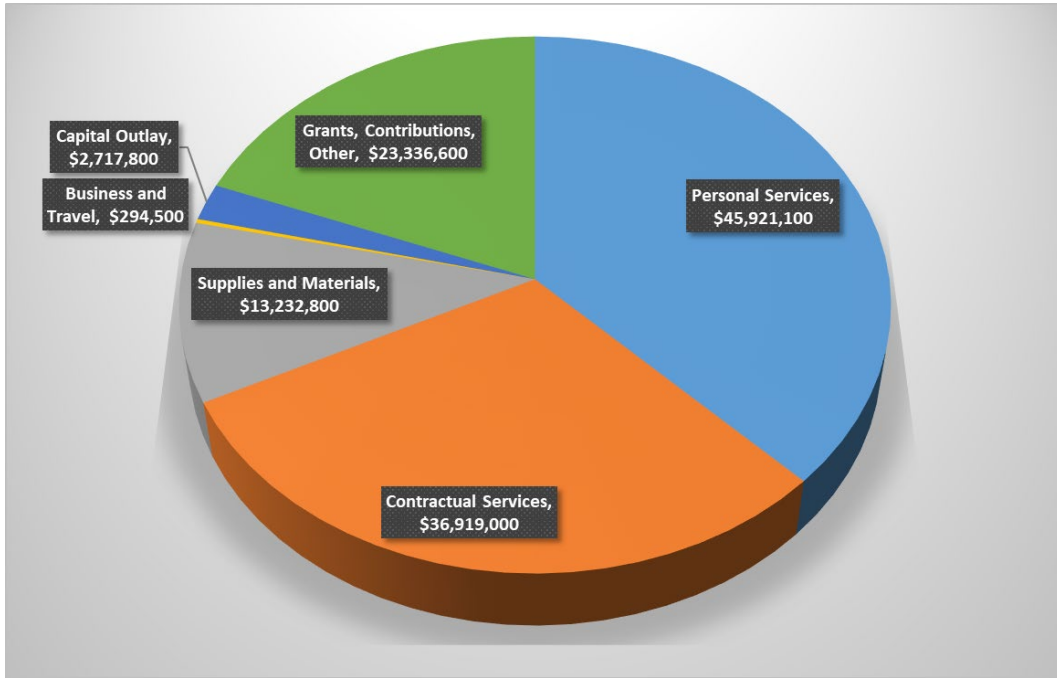
Utility Fund



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Utility Fund (Bureau of Utility Operations)



Budget Request:
\$122,421,800

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New Position Requests in Utility Fund

- Program Manager for AMI/AMR
- Plumbing Inspector for Backflow Prevention
- Engineer III for Utility Fund CIP Project Management



New Position Total: \$274,300



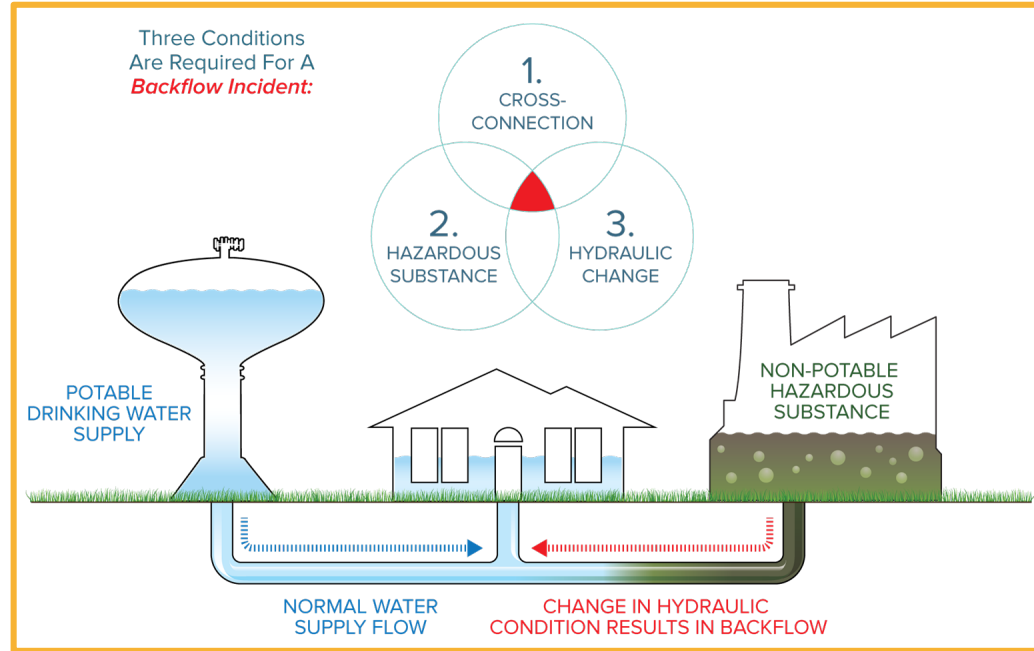
Advanced Meter Infrastructure (AMI) (Smart Meters)

- Program Manager for the Automatic Meter Infrastructure (AMI) program.
- This program will modernize the meter reading process, provide real-time system and customer usage data.
- This position will manage the overall AMI program, which includes meter installation and software implementation, data analysis, and coordination of DPW, OIT, and the Office of Finance as all three departments have a vital stake in AMI's success.
- This program is expected to increase Utility revenue by decreasing leak adjustments, estimated bills, and reducing non-revenue generating water loss.
- Provides customers with more control of water usage.



Backflow Prevention

- Backflow is the unwanted flow of water or other liquids, mixtures or substances into the water distribution system.
- International Plumbing Code (Section 608) requires potable water systems to be maintained to prevent contamination from cross connections. Code requires to install backflow devices on fire suppression and lawn irrigation systems.
- Currently over 13,000 and growing documented testable backflow preventers (commercial and residential fire suppression and irrigation systems, etc.) in the County's water system.



Backflow - Consequences



Jacksonville, TX - Officials believe a **fungicide** may be responsible for the issues affecting the Jacksonville water supply that caused some residents to complain of skin and eye irritation. The fungicide entered the drinking water supply due to a backflow incident.

Neville Township-warning to residents to not drink their water due to a **backflow** in the water system originating from a **fire**



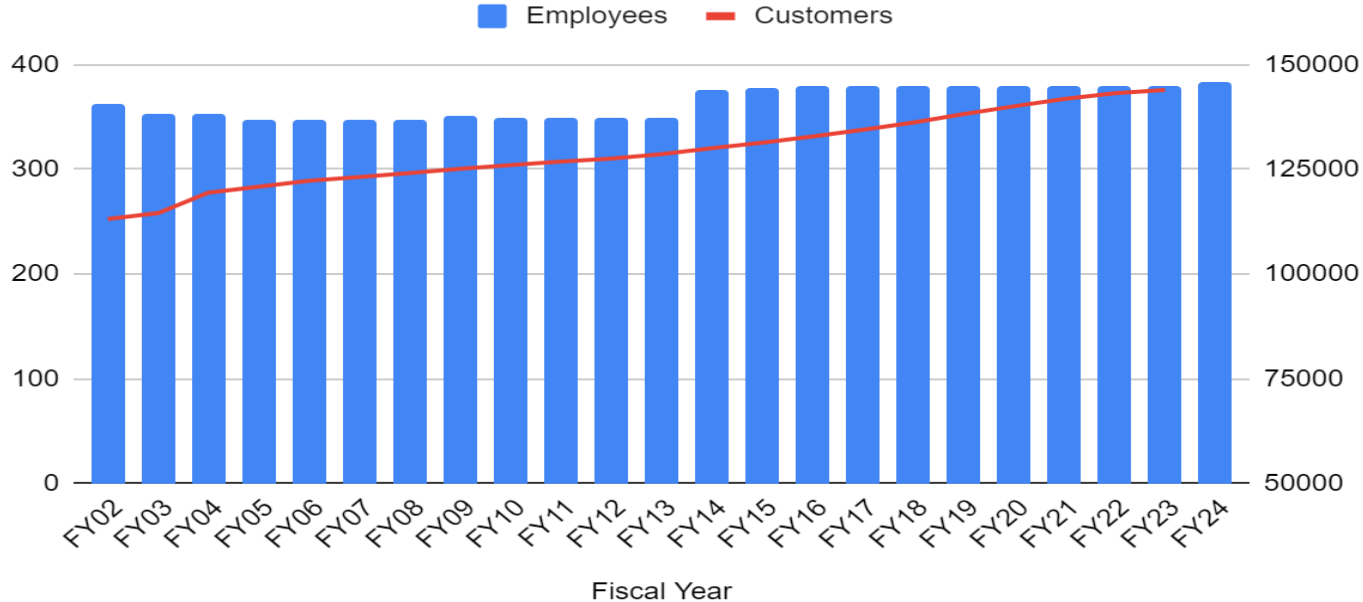
Backflow Prevention Plumbing Inspector

- Addition of one Plumbing Inspector
- DPW is currently only able to rely on private plumbers hired by homeowners to submit inspection reports.
- This is only a paper exercise.
- The Plumbing Inspector will be able to help perform field inspections to be able to confirm the County's water system is not in danger of cross contamination.



Utilities Staffing History

Employees and Customers



*FY14 increase was the transfer of CIP project managers from the General Fund to Utility Fund. No new positions were added.

Chemicals in Bulk

- Chemical costs have increased more than CPI (4.4% to 451% based on chemical)
- Increased quantities of chemicals are needed with development (additional customers and pump stations) and technology upgrades.
- Contracts were recently rebid

Total Chemicals Cost: \$7,305,800



Ferric Chloride Tanks, Cox Creek WRF

Chemical Cost Details

Chemical	Use	FY22 Rate	FY24 Rate	% Increase	FY24 Request
Citric Acid	Clean Membranes	\$3.83/gal	\$15.91/gal	315.40%	\$190,000
Ferric Chloride	Phosphorus Removal	\$571/ton	\$823/ton	44.13%	\$370,400
Micro C	Denitrification	\$1.58/gal	\$3.46/gal	118.99%	\$1,505,100
Polymer	Iron removal	\$2.15/lb	\$2.69/lb	25.12%	\$121,100
Sodium Bisulfite	Dechlorination	\$1.22/gal	\$6.73/gal	451.64%	\$296,100
Sodium Hydroxide	pH control	\$1.82/gal	\$4.04/gal	121.98%	\$590,200
Sodium Hypochlorite	Iron removal, disinfection	\$1.28/gal	\$2.25/gal	75.78%	\$1,057,500

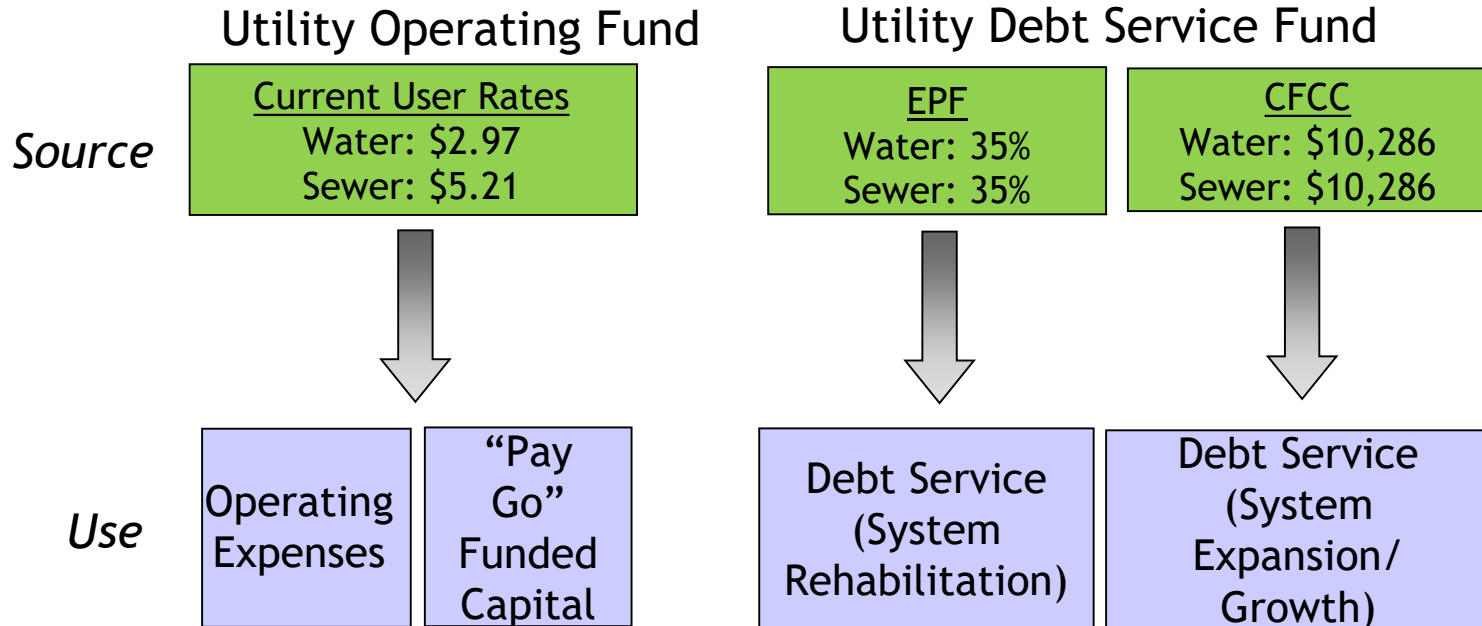
Utility Fund: Equipment Replacement

- Equipment purchases improve operations, provide efficiency, and maintain services
- Specialized equipment
- Heavy equipment costs have increased by 30% and delivery times have been significantly extended due to COVID and supply chain shortages.

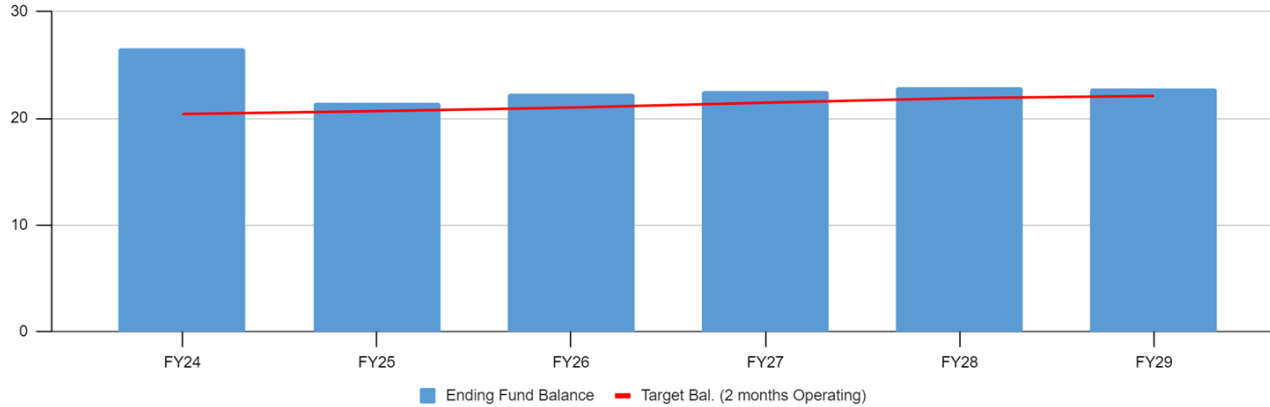
Total Equipment Cost: \$2,717,800



DPW Water and Sewer Enterprise Fund Source and Use of Funds



Proposed Utility Fund Rates

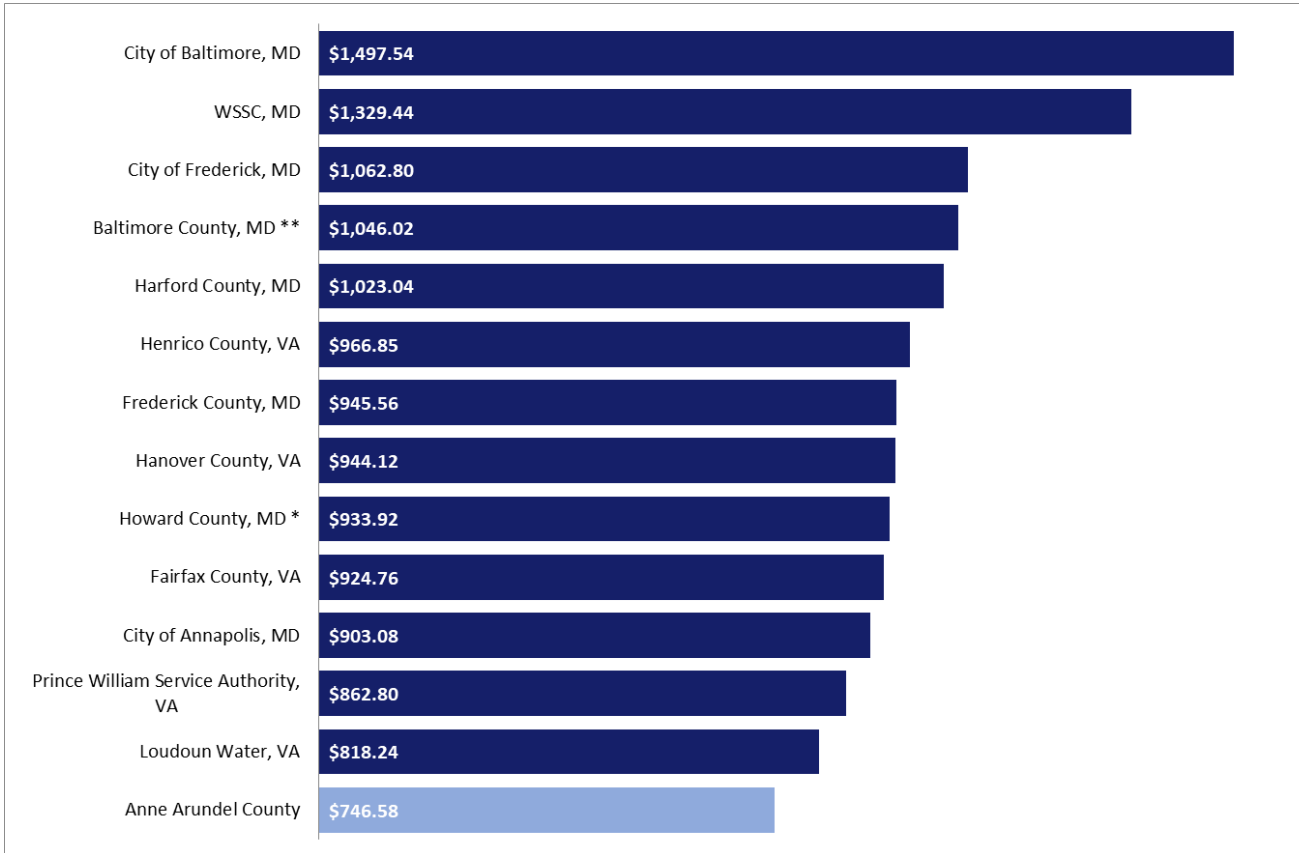


Rate (per 1,000 gallons)	FY 23	FY24	FY25	FY26	FY27	FY28	FY29
Water Usage Rates	\$2.97	\$3.23	\$3.52	\$3.76	\$3.79	\$3.84	\$3.87
Sewer Usage Rates	\$5.21	\$5.67	\$6.18	\$6.61	\$6.67	\$6.77	\$6.83
<i>Usage Rate Increase Assumptions</i>		9.0%	9.0%	7.0%	1.0%	1.5%	1.0%

Rate History

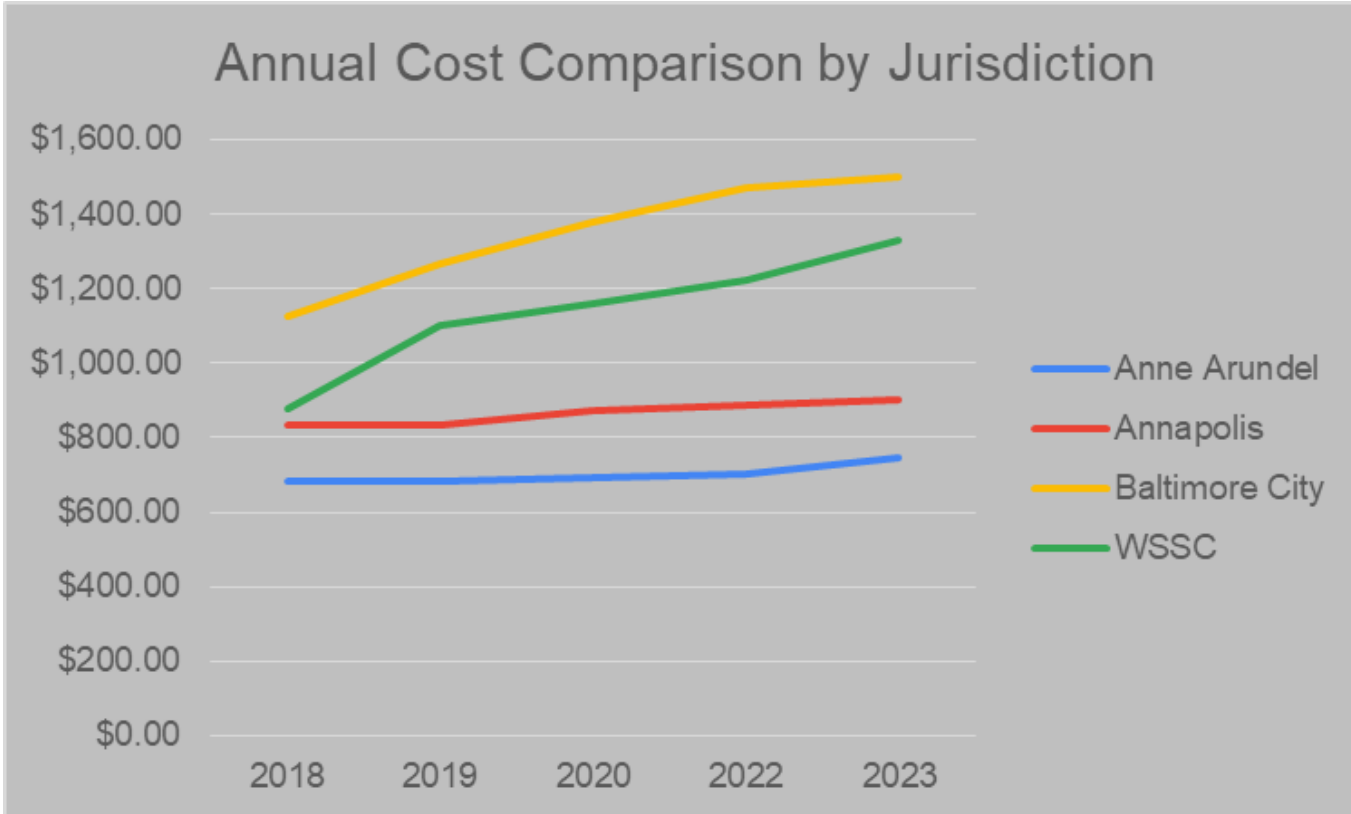
	Water Rate (per 1,000 gal)	Sewer Rate (per 1,000 gal)	EPF %	Quarterly Water Cost (14,000 gal)	Quarterly Sewer Cost (14,000 gal)	Quarterly Water and Sewer Cost (14,000 gal)
FY14	\$2.76	\$4.85	25%	\$48.30	\$84.88	\$133.18
FY15	\$2.76	\$4.85	25%	\$48.30	\$84.88	\$133.18
FY16	\$2.76	\$4.85	25%	\$48.30	\$84.88	\$133.18
FY17	\$2.70	\$4.74	25%	\$47.25	\$82.95	\$130.20
FY18	\$2.70	\$4.74	25%	\$47.25	\$82.95	\$130.20
FY19	\$2.70	\$4.74	25%	\$47.25	\$82.95	\$130.20
FY20	\$2.83	\$4.97	27.5%	\$50.52	\$88.71	\$139.23
FY21	\$2.83	\$4.97	30%	\$51.51	\$90.45	\$141.96
FY22	\$2.83	\$4.97	32.5%	\$52.50	\$92.19	\$144.69
FY23	\$2.97	\$5.21	35%	\$56.13	\$98.47	\$154.60

2023 Water & Sewer Annual Bill



- Comparison using 15,000 gallons of water quarterly
- Howard County total includes 8% ad valorem tax
- Baltimore County includes water distribution fee

Regional Rate Change Comparison



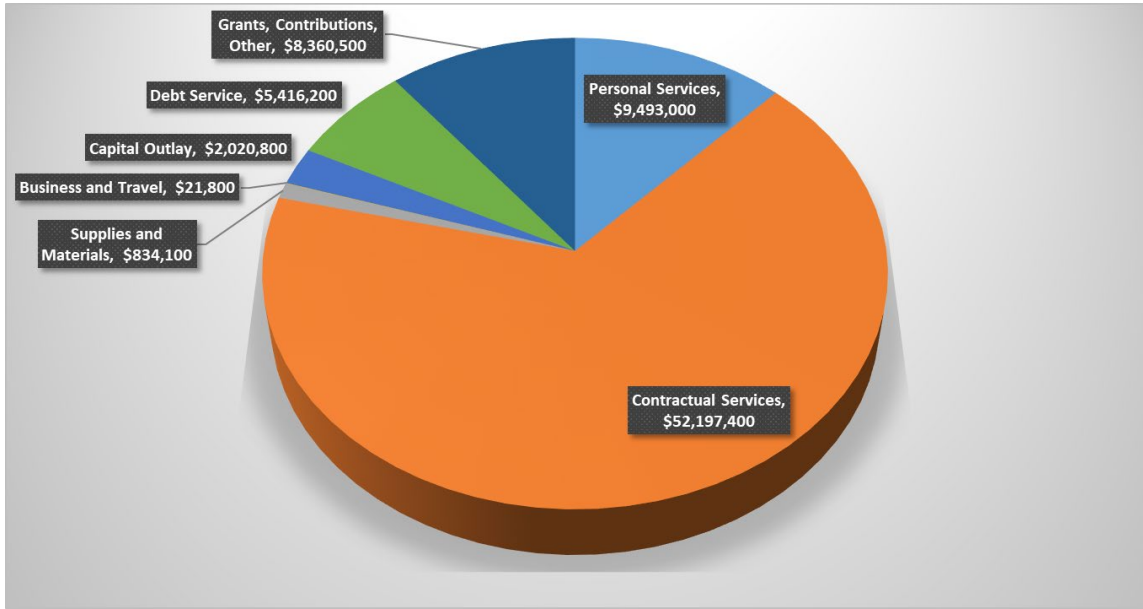
Rate Increases:

- Baltimore City (FY24 and FY25) approved with FY23
 - Water 3%
 - Sewer 3.5%
- City of Annapolis
 - 3-5% proposed

Solid Waste Fund



Solid Waste Fund (Bureau of Waste Management Services)

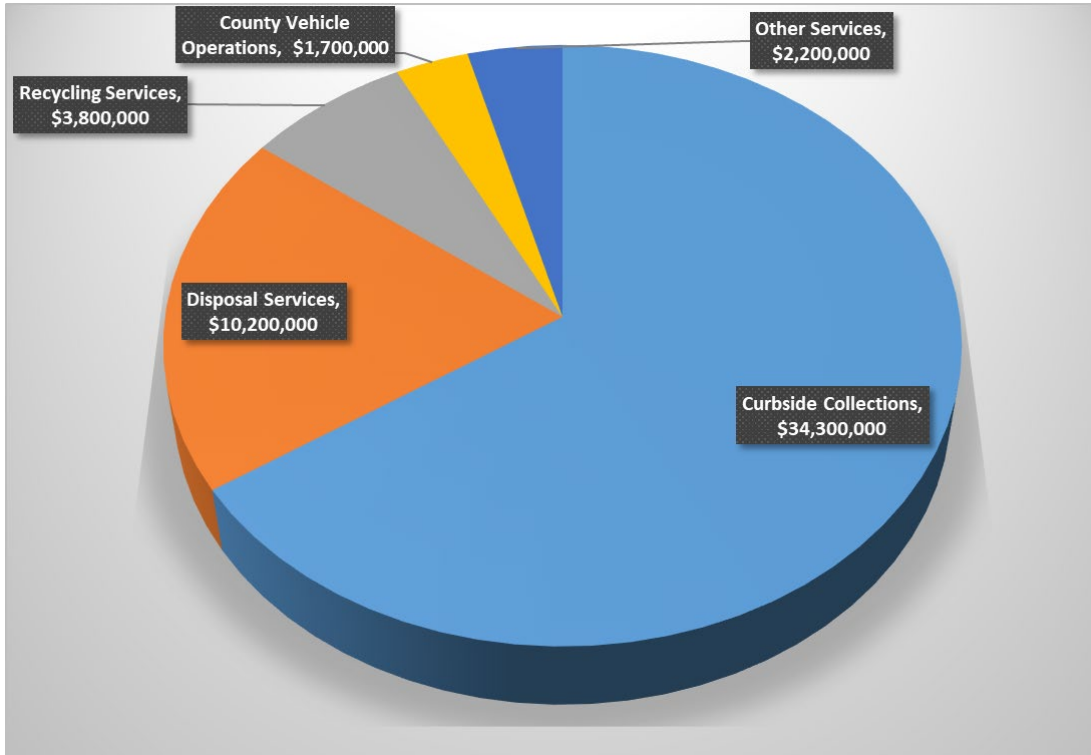


Budget Request:
\$78,343,800

*Excludes potential EPA grant of \$2,536,800

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Outsourcing engages local businesses



- 2/3 of the operating budget is for Contractual Services (\$52.2M*)
- Local vendors and facilities provide specialized services and jobs

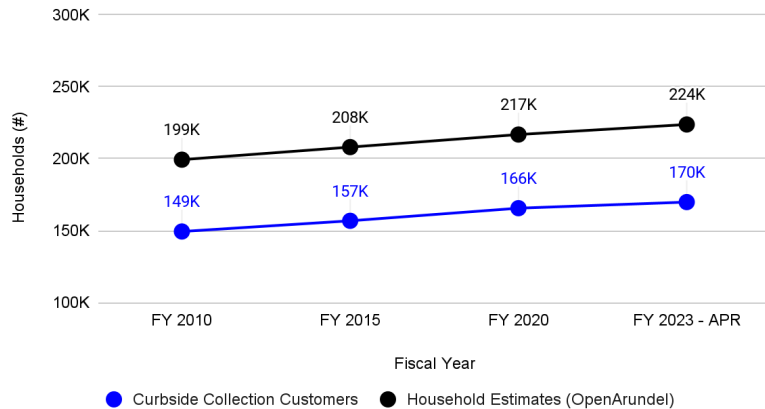
*Waste Collection Fund only; not including possible EPA Grant award



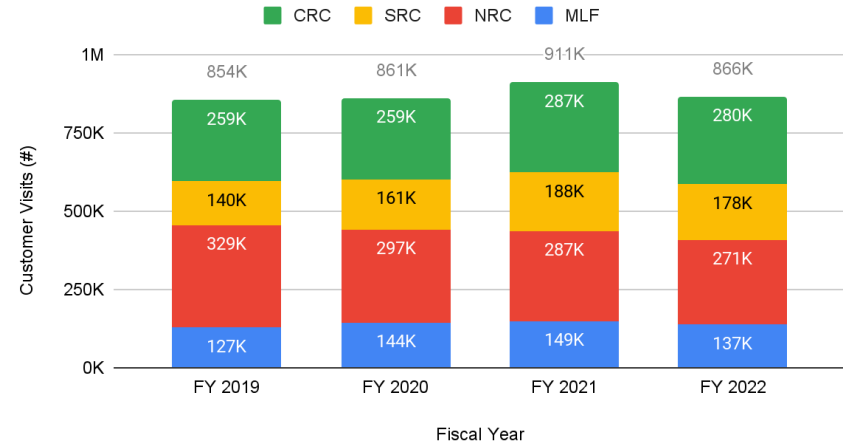
Our neighbors are our customers

The majority of Anne Arundel County residents rely on the enterprise's services at home, at one of three Recycling Centers, or when visiting the Millersville Landfill and Resource Recovery Facility

County Households Receiving Curbside Collection



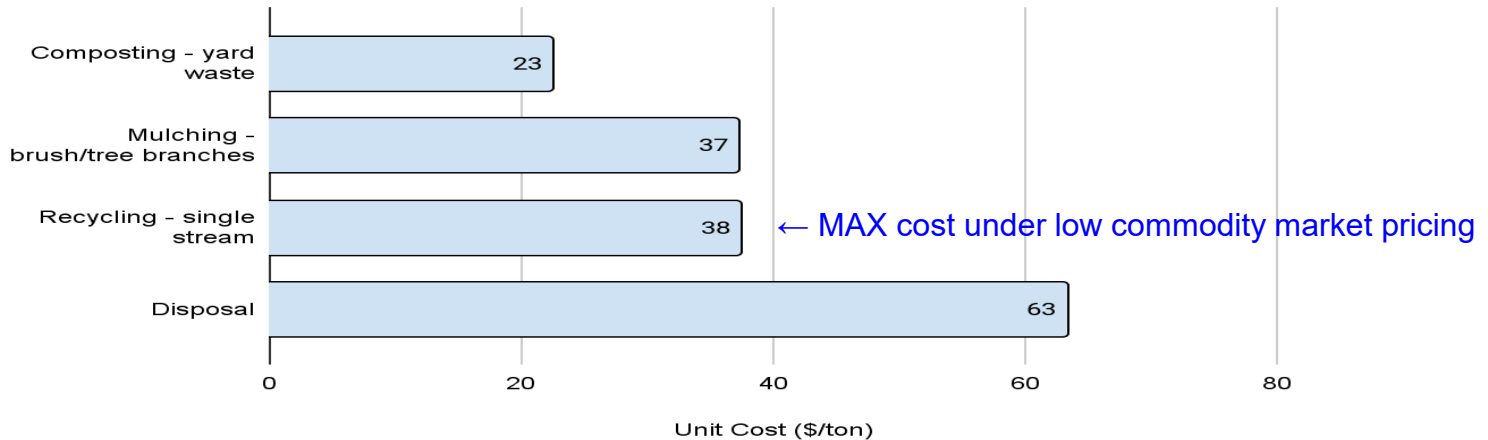
Recycling Center and Landfill Customer Visits



Recycling saves more than landfill space!

Composting, producing mulch, and recycling paper, plastic, metal and glass and other materials saves money and helps us meet State recycling law requirements

FY 2024 Material Processing Unit Costs

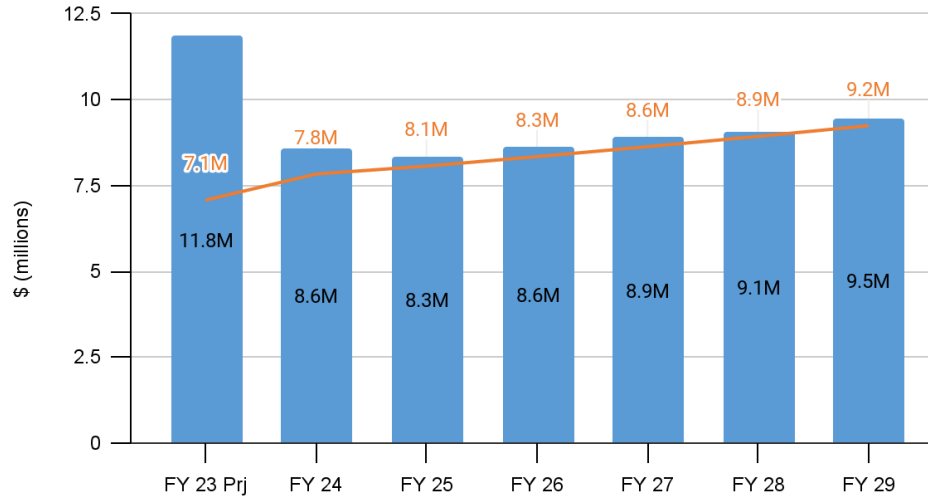


Solid Waste Fund Revenue Sources

- Majority (86%) of operating revenue is from the Solid Waste Service Charge added to the property tax bill
 - Households receiving curbside collection service pay the charge
- Other codified fees exist in Article 13 for use of the Millersville Landfill -- these represent about 10% of operating revenue
 - \$85/ton disposal fee to commercial businesses set in FY 2022

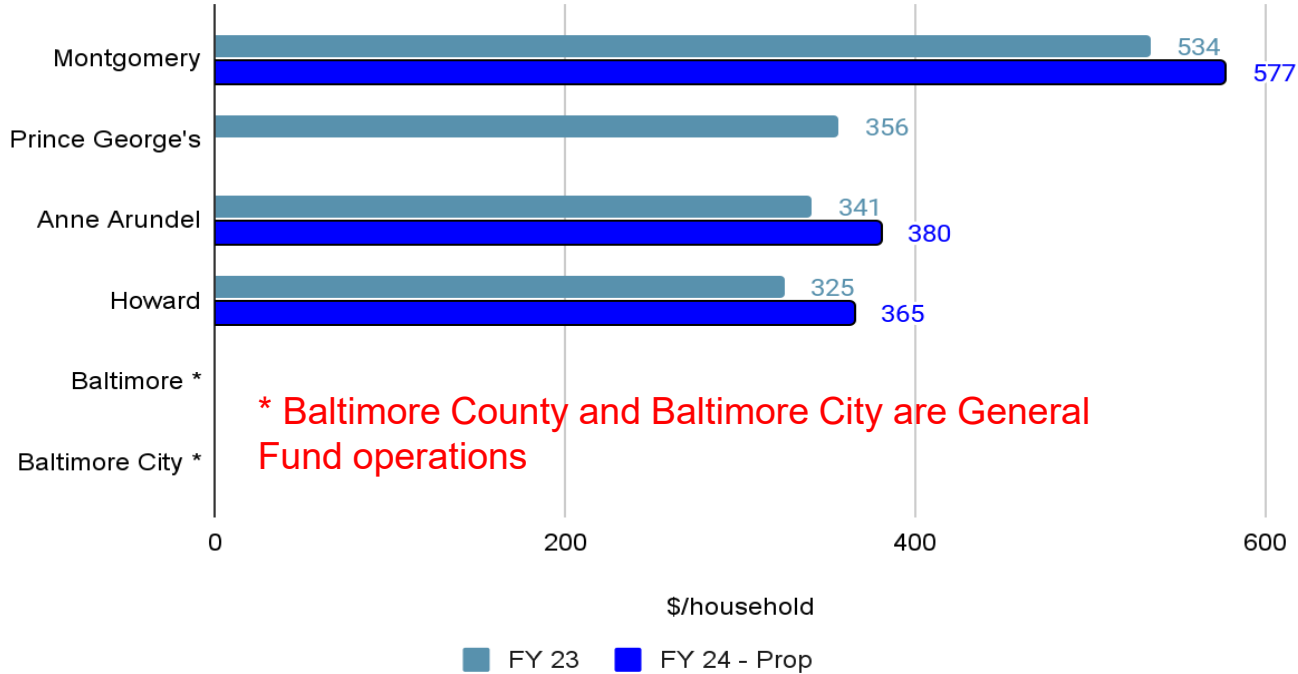


Fund Balance and Solid Waste Service Charge Projections



Fiscal Year	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
Solid Waste Rate Projections	\$341	\$380	\$406	\$420	\$431	\$442	\$455
Rate Increase Assumptions		11%	7%	3%	3%	3%	3%

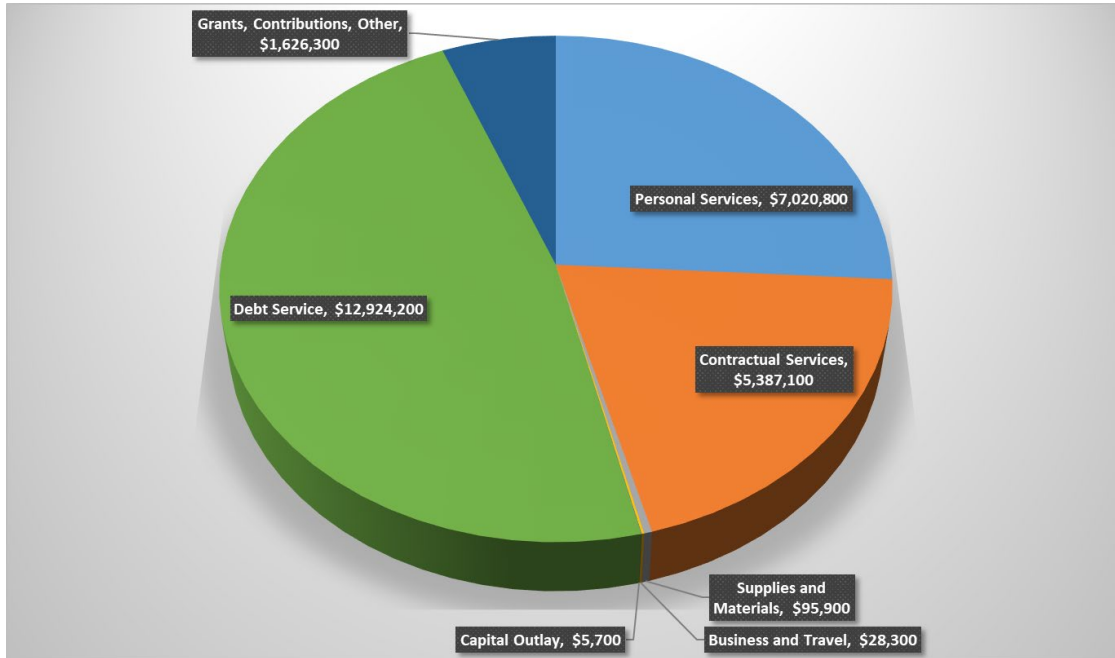
Solid Waste User Fees in the Region



Watershed Protection & Restoration Fund



WPRF (Bureau of Watershed Protection and Restoration)

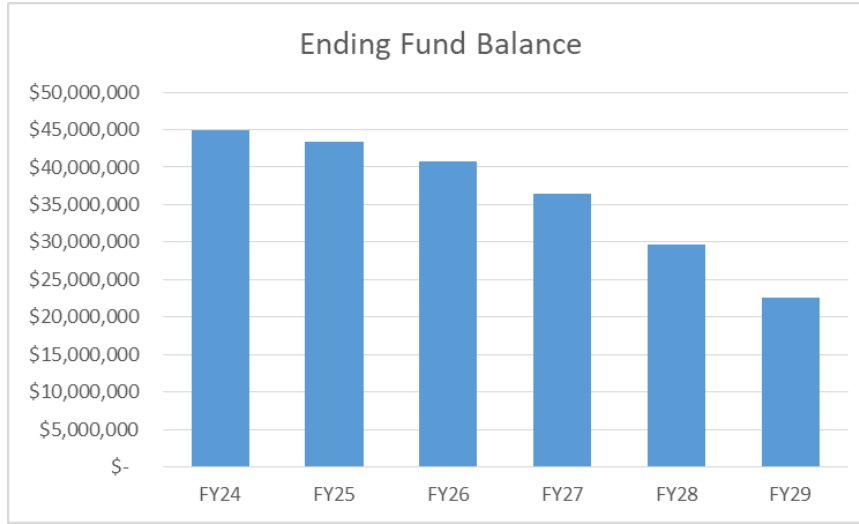


Budget Request: \$27,088,300

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Proposed Stormwater Fees



Fiscal Year	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
Watershed Protection Fee	\$89.25	\$93.71	\$98.40	\$103.32	\$108.49	\$113.91	\$119.61
Rate Increase Assumptions		5%	5%	5%	5%	5%	5%



Stormwater Fee Comparison

Average Single Family Stormwater Remediation Cost

