The Maryland-National Capital Park & Planning Commission
Post-Employment Medical Benefits

Actuarial Valuation as of July 1, 2022
to Determine the Commission's FYE 2024 Contribution

Bolton

Submitted by:

Tom Vicente, FSA, MAAA, EA
Senior Consulting Actuary
(443) 573-3918
tvicente@boltonusa.com

Kevin Binder, FSA, MAAA, EA
Senior Consulting Actuary
(443)573-3906
kbinder@boltonusa.com

Timothy Barry, ASA
Actuary
(667) 218-6926
tbarry@boltonusa.com

Bolton
Employee Benefits, Actuarial & Investment Consulting

December 14, 2022

Abbey Rodman
Maryland-National Capital Park and Planning Commission
6611 Kenilworth Ave.
Riverdale, MD 20737

Dear Abbey:

The following sets forth the Actuarial Determined Contribution for the Maryland-National Capital Park & Planning Commission (M-NCPPC) as of July 1, 2022 for FYE 2024. Section I of the report provides an executive summary while Sections II through VI contain the development of the Commission's contribution for the 2024 fiscal year along with a summary of the census, plan provisions, assumptions, and actuarial methods. Section VII provides a glossary of many of the terms used in this report. The appendix of the report provides a 10-year cash flow projection.

This report has been prepared for the M-NCPPC for the purposes of computing the Actuarially Determined Contribution for FYE 2024. It is neither intended nor necessarily suitable for other purposes. Bolton is not responsible for the consequences of any other use, or its reliance by another party.

As requested by M-NCPPC, we are also including a 5-year budget forecast that projects the actuarially determined contribution (ADC) and calculates the estimated contribution requirement for M-NCPPC. For the budget forecast, it is assumed that the discount rate and expected investment rate of return will decrease by 0.05% annually from 6.75% for FY 2023.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

The report is based on data submitted by the M-NCPPC and medical claims reported by the carriers. We have not performed an audit of the data and have relied on this information for purposes of preparing this report. For demographic assumptions (retirement, termination, disability), we relied upon the assumptions used for the pension plan.

Because the net impact of COVID-19 on mortality, health costs and changes in turnover and retirement behavior is not possible to estimate at this time, we have made no adjustments to any of the assumptions selected before the COVID-19 pandemic.

Future medical care cost increase rates are unpredictable and could be volatile. They will depend upon the economy, future health care delivery systems and emerging technologies. The trend rate selected is based on an economic model developed by a health care economist for the Society of Actuaries. Future medical trend increases could vary significantly from the model. Model inputs will be updated periodically based on the best estimate of the economy at that time. Small changes in the model inputs can result in actuarial losses or gains of 5 to 15 percent of liabilities.

Bolton Partners is completely independent of the Maryland-National Capital Park & Planning Commission, its programs, activities, officers, and key personnel. Bolton Partners, and anyone closely associated with us, does not have any relationship which would impair or appear to impair our independence on this assignment.

The valuation was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.

Bolton Partners, Inc. ("Bolton") does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which this report is based reflects Bolton's understanding as an actuarial firm. Bolton recommends that recipients of this report consult with legal counsel when making any decisions regarding compliance with ERISA, the Internal Revenue Code, or any other statute or regulation.

Tom Vicente and Kevin Binder meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Tom Vicente, FSA, MAAA, EA
Senior Consulting Actuary
(443) 573-3918
tvicente@boltonusa.com

Kevin Binder, FSA., MAAA, EA
Senior Consulting Actuary
(443) 573-3906
kbinder@boltonusa.com

Timothy Barry, ASA
Actuary
(667) 218-6926
tbarry@boltonusa.com

Table of Contents

Section I. Executive Summary

Background

Bolton Partners, Inc. has prepared the following report that sets forth the FYE 2024 Actuarial Determined Contribution (ADC) for the M-NCPPC employees. The accounting results under GASB 75 were disclosed in a separate report.

This report has been prepared for budgeting purposes. M-NCPPC contributes to the trust based on an Actuarial Determined Contribution (ADC). The Commission has not changed the method used to determine the ADC which was based on the old GASB45 accounting standard's accounting expense.

OPEB Trust Arrangement and Funding Policy

M-NCPPC established an irrevocable Trust for its OPEB plan. The market value of the assets in Trust as of June 30, 2022 is $124,498,215 as reported by M-NCPPC. Pay-go benefits are paid from general revenue. M-NCPPC's contribution policy is to contribute the ADC minus expected pay-go and minus federal reimbursements annually to the trust.

Implications of the Sponsor's Funding Policy

We anticipate the Plan's funded status will gradually improve as M-NCPPC continues to contribute the ADC to its OPEB Trust annually. We anticipate the expected benefit payments will increase 62% over the next ten years (please refer to the Appendix for the expected benefit payment stream). This means the M-NCPPC's contribution to the Plan will increase at a rate higher than the rate of payroll increase.

Significant assumptions used in the assessment are:

- no future changes to plan provisions, assumptions or methods (except for the expected rate of return and discount rate);
- no significant demographic changes in the future;
- investment returns and claims experience are consistent with the assumptions.

The funded status shown in this report is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

The funded status is appropriate for assessing the need for or the amount of future actuarially determined contributions.

Section I. Executive Summary

Actuarial Determined Contribution

The Actuarial Determined Contribution is equal to the Normal Cost plus an amortization of the unfunded liability. The amortization period was initially a closed 30 year period (23 years for FY2024) and is a level percentage of payroll, with payroll assumed to increase 2.5 percent per year.

Comparison with Previous Valuation

The gross actuarially determined contribution (ADC) and the net Trust contribution (after accounting for Pay-Go and the Federal Subsidies) increased from the previous valuation. The ADC has increased from $35,913,000 for FYE 2023 to $37,943,000 for FYE 2024.

The increase was due to the passage of time, unfavorable demographic, claims, and investment experience, and reducing the expected rate of return/discount rate 5 basis points. The ADC increase is offset under the under the new election rate assumptions determined in Bolton's experience study dated September 30, 2022.

Below is a chart reconciling the FYE 2023 ADC to the FYE 2024 ADC.

Comparison of Current and Previous Valuations		
Data as of	*July 1, 2021*	*July 1, 2022*
Data is used to calculate ADC for FYE	*2023*	*2024*
Demographic Data *(with Medical Coverage)*		
Employees	1,940	1,904
Retirees	1,363	1,440
Reconciliation	**Gross ADC**	**Net Trust Contribution**
FYE 2023 ADC (Previous Valuation)	$35,913,000	$9,409,000
Increase/(Decrease) due to Passage of Time	1,338,000	(693,000)
Increase/(Decrease) due to a More than Expected FYE 2022 Federal Reimbursement	0	(231,000)
Increase/(Decrease) due to Less than Expected FYE 2022 Net Contributions (less Benefit Payments)	156,000	156,000
Increase/(Decrease) due to FYE 2022 Investment Experience	1,266,000	1,266,000
Increase/(Decrease) due to Demographic Experience	420,000	(127,000)
Increase/(Decrease) due to Claims Experience	301,000	67,000
Increase/(Decrease) due to Reducing the Discount Rate/Expected Rate of Return to 6.70%	257,000	257,000
Increase/(Decrease) due to Updated Election Rate Assumptions	(1,708,000)	(1,548,000)
FYE 2024 ADC (Current Valuation)	**$37,943,000**	**$8,556,000**

Section I. Executive Summary

Funding Measures

Below is a summary of the Market Value of Assets and Liabilities for FYE 2024:

Funding Measures	*7/1/2023*
(1) Actuarial Accrued Liability	$ 534,819,000
(2) Expected Market Value of Assets	$ 142,946,215
(3) Funded Ratio (2 / 1)	26.73%

Plan Provisions

Retirees and beneficiaries of the Maryland-National Capital Park & Planning Commission (M-NCPPC) who had health, prescription, dental, and/or vision coverage as active employees are eligible for coverage if they retire from active service after:

- Attaining eligibility to retire directly from active service and are receiving retirement benefits from retirement programs sponsored by M-NCPPC, including the M-NCPPC Employees' Retirement System (ERS)
- Having maintained coverage continuously for the 36-month period immediately prior to retirement with the Commission's Plan or another employer plan

The subsidy for employees depends on job category, date of hire, and health coverage. Please see Section IV for more details.

Demographic Data

Demographic data as of July 1, 2022 was provided to us by M-NCPPC. This data included current medical coverage for current employees and retirees.

Although we have not audited this data, we have no reason to believe that it is inaccurate.

Demographic Assumptions

Demographic assumptions (retirement, termination, disability, mortality, salary scale) are based on an experience study performed for the M-NCPPC Employees' Retirement System by Cheiron on May 4, 2021.

The election rate assumptions are based on the experience study performed by Bolton on September 30, 2022.

See Section VI for more details.

Section I. Executive Summary

Medical Claims Assumption

The gross claims are based on enrollment and paid medical claims and prescription for pre and post age 65 retirees paid from July 1, 2019 to June 30, 2022. Claims and enrollments were divided into Medicare and non-Medicare eligible retirees.

The published insurance rates for persons prior to Medicare eligibility are based primarily on the healthcare usage of active employees. Since retirees' per capita health cost is much higher than that for employees, using these blended rates creates an implicit subsidy for the retiree group. GASB requires that the claims assumption we use for this valuation be based on the actual per-capita retiree cost.

Although we have not audited the claims data, we have no reason to believe that it is inaccurate.

Implicit Subsidy

The published insurance rates for persons prior to Medicare eligibility are based primarily on the healthcare usage of active employees. Since retirees use healthcare at a rate much higher than employees, using these blended rates creates an implicit subsidy for the retiree group. GASB requires that the claims assumption we use for this valuation be based on the actual per-capita retiree cost. The difference between the actual usage of healthcare by retirees and the assumption built into the published rates is identified as the implicit subsidy amount. The impact on rates can be seen in Section VI. The liabilities could be reduced by publishing rates for retirees prior to Medicare eligibility that more closely reflect the true cost of healthcare for each group.

B

Section I. Executive Summary

Impact of COVID-19

Because the net impact of COVID-19 on investment return, health costs, and changes in turnover and retirement behavior is not possible to estimate at this time, we have made no adjustments to any of the assumptions selected before the COVID19 pandemic.

Economic Assumptions

The expected rate of return assumption 6.70% is net of investment return.

For the budget forecast, it is assumed that the discount rate and expected investment rate of return will decrease by 0.05% annually from 6.70% for FY 2024 to 6.50% in 2028.

The medical trend assumption was updated using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model, version 2021_b. The SOA model is flexible and allows for adjustments that ultimately control how quickly the current trend converges to the percentage increase in the GDP. The following assumptions were the input variables into the SOA model:

Rate of Inflation	2.5%
Rate of Growth in Real Income / GDP per capita	1.5%
Excess Medical Growth	1.1%
Expected Health Share of GDP in 2030	20.3%
Health Share of GDP Resistance Point	15.0%
Year for Limiting Cost Growth to GDP Growth	2040

The health share of GDP resistant point and year for limiting cost growth differ from the baseline but were selected by the Commission in the prior reports. The SOA Long-Run Medical Cost Trend Model is based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection, tolerance ranges and input variables have been developed under the guidance of an SOA Project Oversight Group.

Payroll is assumed to increase at 2.50 percent per annum. This assumption is used to determine the level percentage of payroll amortization factor.

B

Section II. Actuarially Determined Contribution

FYE 2024 Actuarial Determined Contributions

Below is a summary of the calculation of the Plan's Actuarially Determined Contributions (ADC) under current plan provisions. Item (6) shows the impact of a 1% increase in trend on the ADC.

	FYE 2024
(1) Interest Rate	6.70%
(2) Accrued Liability	
(a) Actives	$ 236,929,000
(b) Deferred Vested Terminations	0
(c) Retirees in Pay Status	297,890,000
(d) Total (a + b + c)	534,819,000
(3) Estimated Assets	142,946,215
(4) Unfunded Accrued Liability (2. – 3.)	391,872,785
(5) ERI Amortizations	
(a) ERI Remaining Years	2
(b) ERI Amount Remaining	1,026,969
(c) ERI Amortization Factor	1.9606
(d) ERI Amortization Amount (b / c)	524,000
(6) Gain/Loss Amortizations	
(a) G/L Remaining Years	23
(b) G/L Amount Remaining	390,845,816
(c) G/L Amortization Factor	15.3173
(d) G/L Amortization Amount (b / c)	25,516,000
(7) Actuarial Determined Contribution	
(a) Normal Cost	11,903,000
(b) Amortization of Unfunded Accrued Liability	26,040,000
(c) Total Actuarial Determined Contribution (a + b)	**37,943,000**
(8) 1% Sensitivity (ADC)	46,546,000
(9) Expected Employer Contributions	
(a) Estimated Implicit Subsidy	10,401,000
(b) Net Explicit Subsidy	15,682,000
(c) Federal Subsidy*	3,304,000
(d) Additional Employer Contributions	8,556,000
(e) Total Expected Contributions (a + b + c + d)	37,943,000

* The expected reimbursements are already reflected in the claims development and thus will not decrease the employer contribution requirement.

Section III. Plan Projections

Projection of ADC for 5 Years

Below is a summary of the Plan's projected ADC for 5 years. The projection assumes M-NCPPC contributes the ADC to the trust each year and that the expected rate of return assumption will continue to decrease by 0.05% each year.

	07/01/2022 - 06/30/2023	07/01/2023 - 06/30/2024	07/01/2024 - 06/30/2025	07/01/2025 - 06/30/2026	07/01/2026 - 06/30/2027	07/01/2027 - 06/30/2028
Assumptions:						
Trust Investment Return	6.75%	6.70%	6.65%	6.60%	6.55%	6.50%
Discount Rate	6.75%	6.70%	6.65%	6.60%	6.55%	6.50%
Salary Scale	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Normal Cost Increase	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
ERI Remaining Amortization	3	2	1	-	-	-
# Years to Amortize	24	23	22	21	20	19
Unfunded Accrued Liability:						
APBO BOY	511,401,000	534,819,000	559,498,000	584,513,000	610,101,000	636,247,000
Estimated Assets BOY	144,817,522	142,946,215	161,652,215	181,262,215	201,533,215	223,093,215
Unfunded APBO	366,583,478	391,872,785	397,845,785	403,250,785	408,567,785	413,153,785
Percent Funded	28%	27%	29%	31%	33%	35%
BOY ADC (Actuarially Determined Contribution):						
Normal Cost	12,063,000	11,903,000	12,533,000	13,196,000	13,894,000	14,629,000
Amortization	23,850,000	26,040,000	27,084,000	27,638,000	28,796,000	30,025,000
Total (ADC)	**35,913,000**	**37,943,000**	**39,617,000**	**40,834,000**	**42,690,000**	**44,654,000**
Expected Employer Contributions:						
Implicit Subsidy	8,601,000	10,401,000	11,044,000	11,560,000	12,153,000	12,647,000
Federal Subsidies	2,955,000	3,304,000	3,436,000	3,573,000	3,716,000	3,865,000
Net Explicit Subsidy	14,948,000	15,682,000	16,829,000	17,907,000	18,975,000	20,056,000
Additional Contribution	9,409,000	8,556,000	8,308,000	7,794,000	7,846,000	8,086,000
Total Contribution	35,913,000	37,943,000	39,617,000	40,834,000	42,690,000	44,654,000
Trust Assets:						
Beginning of Year Amount *	124,498,215	142,946,215	161,652,215	181,262,215	201,533,215	223,093,215
Return on Investments	8,404,000	9,577,000	10,750,000	11,963,000	13,200,000	14,501,000
BOY Contributions**	9,409,000	8,556,000	8,308,000	7,794,000	7,846,000	8,086,000
Return on Contributions	635,000	573,000	552,000	514,000	514,000	526,000
End of Year Amount	142,946,215	161,652,215	181,262,215	201,533,215	223,093,215	246,206,215
Benefit Payments	23,549,000	26,083,000	27,873,000	29,467,000	31,128,000	32,703,000
Benefit Payment as percent of expense	66%	69%	70%	72%	73%	73%

* FYE 2023 Beginning of Year amount updated to actual assets.

** The FYE 2023 contribution is based on the previous valuation (report issued December 1, 2021). The FYE 2024 contribution is based on the current valuation (please refer to page 6). All contributions are assumed to be made at the beginning of the fiscal year.

B

Section IV. Summary of Principal Plan Provisions

The following summary describes principal plan provisions assumed in calculating the cost of the OPEB Plan.

General Eligibility Rules

Retirees and beneficiaries of the Maryland-National Capital Park & Planning Commission (M-NCPPC) who had health, prescription, dental, and/or vision coverage as active employees are eligible for coverage if they retire from active service after:

- Attaining eligibility to retire directly from active service and are receiving retirement benefits from retirement programs sponsored by M-NCPPC, including the M-NCPPC Employees' Retirement System (ERS)
- Having maintained coverage continuously for the 36 month period immediately prior to retirement with the Commission's Plan or another employer plan

Retirement Eligibility

The retirement eligibility requirements of M-NCPPC depend upon job category and date of hire as summarized below:

Plan B (General Employees hired before 01/01/2013)

- Age 60 with 5 years of service
- 30 years of service
- Age 55 with 15 years of service (early retirement)
- 25 years of service (early retirement)

Plan C (Police Employees)

- Age 55 with 5 years of service
- 25 years of service
- 20 years of service (early retirement)

Plan E (General Employees on or after 01/01/2013)

- Age 62 with 10 years of service
- 30 years of service
- Age 57 with 15 years of service (early retirement)
- 25 years of service (early retirement)

Disability

No disability retirement benefit is provided.

Section IV. Summary of Principal Plan Provisions

Death

Members who meet the eligibility requirements for normal or early retirement at time of death are eligible for lifetime coverage for their surviving spouse. Spouses may continue coverage in an M-NCPPC retiree healthcare plan and receive the same subsidy as the member. Benefits end if the survivor remarries.

Members who do not meet the eligibility requirements for normal or early retirement at time of death receive:

- 6 months of medical and prescription coverage under the plan at no cost to the survivor or dependents. M-NCPPC will pay 100% of the medical and prescription premium cost of benefits already elected. Survivors are required to pay the applicable premium co-pay for vision and dental coverage if previously enrolled in those plans
- 18 months of coverage paid at the same premium sharing percentage with M-NCPPC as active employees
- 12 months of COBRA coverage at the normal federally allowed percentage

Dependents

Dependents that are not eligible for coverage at the time of retirement cannot be added at a later date.

Coordination with Medicare

All Medicare eligible retirees, surviving spouses, disability recipients, and all eligible dependents are required to enroll in Medicare Parts A and B in order to continue to be eligible for insurance coverage under the plan. The amount payable under the M-NCPPC health plan will be reduced by the amount payable under Medicare for those expenses that are covered by both.

Medicare eligible participants are required to choose between enrolling in the Federal Part D prescription drug plan and the M-NCPPC plan. Participants enrolled in both will be required to dis-enroll from the M-NCPPC plan.

Section IV. Summary of Principal Plan Provisions

Employer Subsidy

The subsidy for employees depends on job category, date of hire, and health coverage as follows:

- General Employees hired before 01/01/2013 receive an 80% subsidy from M-NCPPC
- Police Employees hired before 01/01/2014 receive a 78% subsidy from M-NCPPC
- General Employees hired on or after 01/01/2013 and Police Employees hired on or after 01/01/2014 receive a subsidy based on years of service as follows:

Years of Service	General Employees	Police Employees
10	50.00%	50.00%
11	51.50%	52.33%
12	53.00%	54.67%
13	54.50%	57.00%
14	56.00%	59.33%
15	57.50%	61.67%
16	59.00%	64.00%
17	60.50%	66.33%
18	62.00%	68.67%
19	63.50%	71.00%
20	65.00%	73.33%
21	66.50%	75.67%
22	68.00%	78.00%
23	69.50%	78.00%
24	72.00%	78.00%
25 or more	75.00%	78.00%

- All participants receive an 80% employer subsidy for dental and M-NCPPC subsidizes 80% of the premium rate for the lowest cost vision plan

B

Section IV. Summary of Principal Plan Provisions

Underlying Plan Description

M-NCPPC offers 3 medical plans for pre-Medicare retirees, a Kaiser HMO, UHC POS, and UHC EPO. Medicare eligible retirees can choose between 3 plans, the UHC EPO, UHC Medicare complement plan, and the Kaiser HMO plan. A summary of the premium rates for retirees is provided below:

	Monthly Premium Rates		
Plan	**Single**	**Two Person**	**Family**
Pre-Medicare Medical Plans			
Kaiser HMO (with Rx)	$520.65	$1,041.29	$1,561.94
UHC Choice Plus POS	$715.44	$1,430.88	$2,146.32
UHC Select EPO	$588.00	$1,176.00	$1,764.00
Medicare Plans			
Kaiser HMO (with Rx)	$289.03	$578.06	$867.09
UHC EPO Medicare	$410.28	$820.56	$1,230.84
UHC Medicare Complement	$276.41	$552.82	$829.23
Dental and Vision			
Caremark Prescription	$228.00	$456.00	$684.00
Delta Dental PPO	$35.00	$70.17	$129.76
Delta Dental HMO	$18.59	$36.15	$52.38
Vision Service Plan - Low	$3.16	$6.36	$9.52
Vision Service Plan - Medium	$5.48	$10.98	$16.47
Vision Service Plan – High	$9.53	$19.07	$28.61

Changes in plan provisions since prior valuation

None.

B

Section V. Valuation Data

Membership

The following table summarizes the membership, average age, and average service for participants enrolled in Medical/Dental coverage.

Data as of:		07/01/2021	07/01/2022
(1) Number of Participants			
(a) Active Employees		1,940	1,909
(b) Retirees (Pre- Medicare)		338	342
(c) Retirees (Medicare Age)		1,025	1,098
(2) Active Statistics			
(a) Average Age		47.10	47.35
(b) Average Service		13.23	13.01
(3) Inactive Statistics			
(a) Average Age (Pre-Medicare)		59.86	59.73
(b) Average Age (Medicare Age)		74.60	74.50

B

Section V. Valuation Data

Active Age - Service Distribution

Shown below is a distribution based on age and service of all active participants enrolled in Medical coverage as of 7/1/2022.

	Years of Service									
Age	**Under 1**	**01-04**	**05-09**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35+**	**Total**
Under 25	-	9	2	-	-	-	-	-	-	11
25 – 29	11	45	40	12	-	-	-	-	-	108
30 – 34	16	86	77	25	14	-	-	-	-	218
35 – 39	14	71	69	41	37	19	-	-	-	251
40 – 44	6	59	51	29	37	39	6	-	-	227
45 – 49	7	44	48	31	42	42	24	4	-	242
50 – 54	3	24	49	27	43	44	31	13	3	237
55 – 59	5	34	36	34	42	55	35	25	12	278
60 – 64	1	20	34	34	31	22	23	23	17	205
65 – 70	1	4	12	22	11	17	12	12	13	104
70 and Over	-	-	1	5	7	6	3	2	4	28
Totals	**64**	**396**	**419**	**260**	**264**	**244**	**134**	**79**	**49**	**1,909**

The following table shows averages in total for the above participants.

Averages	Amount
Age:	47.35
Service:	13.01

Section V. Valuation Data

Retiree Age Distribution

The following table summarizes the counts of coverage by ages for the current retired employees as of 7/1/2022.

Age	Individual	Spousal	Total
Less Than 50	2	3	5
50 – 55	7	17	24
55 – 60	38	79	117
60 – 65	72	124	196
65 – 70	138	162	300
70 – 75	192	141	333
75 – 80	100	126	226
80 – 85	70	47	117
Greater than 85	87	35	122
Total	**706**	**734**	**1,440**

Section VI. Valuation Methods and Assumptions

Party Responsible for Assumptions and Methods
Maryland-National Capital Park and Planning Commission

Actuarial Cost Method
This valuation uses the level percentage of payroll entry age normal cost method to allocate the present value of benefits, to prior and future service.

Asset Valuation Method
Market value of assets.

Actuarial Valuation Date
July 1, 2022 for the FYE 2024 ADC calculations.

Measurement Date
July 1, 2022 for the FYE 2024 ADC calculations.

Roll Forward Method
Liabilities are rolled forward from actuarial valuation date to measurement through use of a roll forward method. Liabilities are adjusted for passage of time by adding normal cost minus benefit payments all adjusted with interest.

Amortization of Unfunded Actuarial Accrued Liability
The additional liability attributable to the Early Retirement Incentive (ERI) offered in 2010 is amortized over a 15-year closed period as level-percentage of pay. As of 07/01/2022, there are 3 years remaining. All future Early Retirement Incentives offered will be amortized over 5 years.

The Non-ERI unfunded liability is amortized as level percentage of payroll. The amortization period is closed and equals 23 years as of July 1, 2023.

Section VI. Valuation Methods and Assumptions

Election Percentage and Age of Spouse

Actual coverage status is used for retirees. Females are assumed to be 3 years younger than their male spouse.

97.5% of eligible participants are assumed to elect to participate in the plan.

63.375% of active participants are assumed to be married and elect spousal coverage upon decrement.

These assumptions have been updated based on the Bolton experience study dated September 30, 2022.

Prior Assumptions:
100% of eligible participants are assumed to elect to participate in the plan.

70% of active participants are assumed to be married and elect spousal coverage upon decrement.

Salary Scale

Salaries are assumed to increase for individuals by the following sample rates:

Years of Service	Police	Years of Service	General
0-1	6.30%	0-1	5.40%
2	6.20%	2-4	5.20%
3	6.00%	5	5.00%
4	5.70%	6-9	4.60%
5-6	5.50%	10-11	4.50%
7-10	5.30%	12	4.30%
11-13	4.70%	13-14	4.20%
14-16	4.50%	15	4.10%
17-19	4.00%	20	3.60%
20-25	3.50%	25	2.85%
		30	2.60%

Expected Rate of Return on Assets

6.75% for FY2023, 6.70% FY2024, and continues to decrease by 0.05% annually.

Section VI. Valuation Methods and Assumptions

Trend Assumption

The following increases are assumed for the total plan cost:

Year	Rate
2021	6.50%
2022	6.00%
2023	5.50%
2024	5.00%
2025	4.90%
2026	4.80%
2027	4.70%
2028	4.60%
2029	4.50%
2030	4.40%
2035	4.11%
2040 + (Ultimate)	4.04%

Dental/Vision costs are assumed to increase at 4.00% per annum.

B

Section VI. Valuation Methods and Assumptions

Decrement Assumptions

Below is a summary of decrements used in this valuation. Sample retirement, disability, and termination rates are illustrated in the tables below.

Mortality Decrements		Description
(4)	Healthy – Active	*General:* Pub-2010 General Employees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale *Police*: Pub-2010 Safety Employees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale
(5)	Healthy – Inactive	*General*: Pub-2010 General Retirees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale *Police*: Pub-2010 Safety Retirees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale
(6)	Disabled	*General*: Pub-2010 General Disabled Retirees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale *Police*: Pub-2010 Safety Disabled Retirees Headcount-Weighted Mortality Projected with Fully Generational MP-2020 Mortality Improvement Scale

Disability

Age	Police	General
25	0.25%	0.05%
30	0.50%	0.05%
35	0.75%	0.10%
40	0.75%	0.25%
45	1.00%	0.50%
50	1.00%	0.50%
55	1.00%	0.50%
60	1.00%	0.50%

Section VI. Valuation Methods and Assumptions

Decrement Assumptions

Retirement

Police Employees Retirement Rates are shown below:

Years of Service	Police
0 – 20	5.00%
21 – 24	10.00%
25 – 29	15.00%
30+	100.00%

100% retirement is assumed at age 65. Age 55 or 20 years of service is the minimum age for early retirement

General Employees Retirement Rates are shown below:

Age	General
45	2.50%
46	3.00%
47	3.50%
48	4.00%
49	4.50%
50	5.00%
51	5.50%
52	6.00%
53	6.50%
54-57	7.00%
58	9.00%
59	14.00%
60-64	11.00%
65	15.00%
66-69	20.00%
70+	100.00%

100% retirement is assumed at age 70. Age 55 or 25 years of service is the minimum age for early retirement

B

Section VI. Valuation Methods and Assumptions

Decrement Assumptions

Termination

Withdrawal Rates are shown below:

Years of Service	Police	Years of Service	General
0	9.00%	0-1	10.83%
1-2	6.51%	2-3	8.18%
3-4	4.07%	4-5	6.42%
5-6	2.76%	6-7	5.00%
7-8	1.92%	8-9	4.02%
9-10	1.35%	10-11	3.15%
11-12	0.76%	12-13	2.26%
13+	0.06%	14-15	1.62%
		16-17	1.23%
		18-19	1.03%
		20+	1.00%

Section VI. Valuation Methods and Assumptions

Claims Assumption

To determine the assumed cost and the retiree contributions, we weighted the FYE 2022 premium rates by the current enrollment.

Gross claims were projected to 1/1/2023 by 5.00% per annum for pre-65 medical and prescription drug expenses and 5.00% for post 65 medical and prescription drug expenses. There was no adjustment made to account for EGWP reimbursements.

Dependent coverage is assumed to be 2.33 times the cost of individual coverage Pre-Medicare and 2.00 times the cost of individual coverage Post-Medicare.

The following Charts show Explicit Costs (based on published rates) and Medical and Drug Costs by age.

FY2023 Claims (per year)		
Total Costs		
1. Explicit Costs	**Total**	
a. Pre-Medicare	8,082	
b. Post-Medicare	6,668	
2. Total Medical and Drug Costs	**Medical**	**Drug**
a. Under 50	7,431	2,391
b. Age 50-54	9,092	3,031
c. Age 55-59	10,992	3,854
d. Age 60-64	13,390	4,730
e. Age 65-64	3,057	4,911
f. Age 70-64	2,964	5,838
g. Age 75-64	3,162	6,221
h. Age 80-64	3,554	6,182
i. Age 85 and Older	4,015	5,636
3. Dental/Vision	**Total**	
a. Explicit and Total Costs	486	

B

Section VI. Valuation Methods and Assumptions

Other Assumptions

- All participants are assumed to elect the Vision Service Low Plan for purposes of this valuation.
- All active participants in the FOP bargaining group were assumed to participate in Plan C.
- All general participants hired before 01/01/2013 were assumed to participate in Plan B. Those hired on or after 01/01/2013 were assumed to participate in Plan E.
- All decrements were assumed to occur in the middle of the year.

Changes in methods and assumptions since prior valuation

- The claims assumption was updated to include the most recent plan experience.
- The expected rate of return was updated from 6.75% to 6.70%.

B

Section VII. Glossary

Actuarially Determined Contribution:
For Plans with irrevocable trusts, the recommended contribution to the Plan (determined in conformity with Actuarial Standards of Practice) that is projected to result in assets equaling the actuarial accrued liability within a period of time.

Covered Group:
Plan members included in an actuarial valuation.

Discount Rate (Expected Rate of Return)
The rate used to adjust a series of future payments to reflect the time value of money.

Election Rate:
The percentage of retiring employees assumed to elect coverage.

Employer's Contributions:
Contributions made in relation to the actuarially determined contributions of the employer. An employer has made a contribution in relation to the actuarially determined contribution if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator.

Entry Age Normal Funding Method:
A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit.

Funded Ratio:
The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Healthcare Cost Trend Rate:
The rate of change in per capita health claim costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

B

Section VII. Glossary

OPEB Plan:
An OPEB plan having terms that specify the amount of benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

Other Post-Employment Benefits:
Post-employment benefits other than pension benefits. Other post-employment benefits (OPEB) include post-employment healthcare benefits, life insurance, regardless of the type of plan that provides them, and all post-employment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

Pay-as-you-go (PAYGO):
A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

Payroll Growth Rate:
An actuarial assumption with respect to future increases in total covered payroll attributable to inflation; used in applying the level percentage of projected payroll amortization method.

Plan Liabilities:
Obligations payable by the plan at the reporting date, including, primarily, benefits and refunds due and payable to plan members and beneficiaries, and accrued investment and administrative expenses. Plan liabilities do not include actuarial accrued liabilities for benefits that are not due and payable at the reporting date.

B

Section VII. Glossary

Plan Members:
The individuals covered by the terms of an OPEB plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

Post-employment:
The period between termination of employment and retirement as well as the period after retirement.

Post-employment Healthcare Benefits:
Medical, dental, vision, and other health-related benefits provided to terminated or retired employees and their dependents and beneficiaries.

Select and Ultimate Rates:
Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 2000, 7.5% for 2001, and 7% for 2002 and thereafter, then 8% and 7.5% are select rates, and 7% is the ultimate rate.

Service Cost:
That portion of the Actuarial Present Value of plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Valuation Date:
The as-of date for employee census data. Under GASB 75, the valuation date must be within 30 months of the last day of the fiscal year.

Appendix I. Ten Year Projected Benefit Payments

FYE	Implicit	Explicit	Total
2023	9,747,000	14,497,000	24,244,000
2024	10,401,000	15,682,000	26,083,000
2025	11,044,000	16,829,000	27,873,000
2026	11,560,000	17,907,000	29,467,000
2027	12,153,000	18,975,000	31,128,000
2028	12,647,000	20,056,000	32,703,000
2029	13,227,000	21,182,000	34,409,000
2030	13,758,000	22,289,000	36,047,000
2031	14,199,000	23,360,000	37,559,000
2032	14,830,000	24,463,000	39,293,000

Please note:

- *The expected benefit payment stream shown above assumes:*
  - *That the covered population is a closed group, i.e., there are no new entrants or re-entrants, and*
  - *There will be no changes to the plan provisions, assumptions, or methods in the future.*
- *The Plan's actual benefit payments may be greater or lesser than the amounts shown, depending on actual demographic experience and claims experience.*