



United States Department of the Treasury District of Columbia Pensions Program

Actuarial Valuation Report

Valuation Date: October 1, 2023
Measurement Date: September 30, 2023
Report Date: October 23, 2023

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Executive Summary

Highlights of the Actuarial Valuation

The actuarial valuation report has been completed for the following program for the most recent plan year:

United States Department of the Treasury District of Columbia Pensions Program (Program)

The Program refers to the federal responsibility for benefit payments under the following District of Columbia (D.C.) retirement plans: District of Columbia Police Officers and Firefighters' Retirement Plan, District of Columbia Teachers' Retirement Plan, and District of Columbia Judges' Retirement Plan. The designated assets for the federal administration of these plans are held in two separate funds. The District of Columbia Teachers, Police Officers and Firefighters Federal Pension Fund ("D.C. Federal Pension Fund") covers federal payments under the District of Columbia Police Officers and Firefighters' Retirement Plan and District of Columbia Teachers' Retirement Plan. The Judicial Retirement and Survivors Annuity Fund ("Judicial Retirement Fund") covers payments under the District of Columbia Judges' Retirement Plan.

The purpose of this report is to present the results of the actuarial valuation including:

- To illustrate the current assets and liabilities of each Plan as of the end of Fiscal Year (FY) 2023 (October 1, 2022 through September 30, 2023);
- To review the experience of the Program over the past year and to discuss reasons for changes in Program costs;
- To determine the appropriate contribution to be paid by the Department of the Treasury to the Funds in FY 2024 (October 1, 2023 through September 30, 2024); and
- To identify and discuss any emerging trends in Program costs.

This report also includes certain statement line items and footnote disclosures necessary to compute the annual pension expense in accordance with Statement of Federal Financial Accounting Standards No. 5, Accounting for Liabilities of the Federal Government, and No. 33, Pensions, Other Retirement Benefits, and Other Postemployment Benefits: Reporting the Gains and Losses from Changes in Assumptions and Selecting Discount Rates and Valuation Dates (SFFAS 5 and SFFAS 33). Use of the valuation results for other purposes may not be appropriate.

Per Actuarial Standards of Practice 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions (ASOP 4), effective for measurement dates after February 15, 2023, when measuring pension obligations, the combined effect of assumptions is expected to have no significant bias (i.e., it is not significantly optimistic or pessimistic) for non-prescribed assumptions except when provisions for adverse deviation are included. The combined effect of non-prescribed assumptions used for measuring the pension obligations in this valuation does not have significant bias.

Summary of Results

As of October 1, 2023	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
Actuarial Accrued Liability	\$ 8,500,663,382	\$ 327,958,468
Plan Assets	<u>(4,108,055,077)</u>	<u>(206,059,441)</u>
Unfunded Actuarial Accrued Liability	\$ 4,392,608,305	\$ 121,899,027
Normal Cost with Interest (including expected employee contributions)	N/A	\$ 9,300,000

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Highlights of the Actuarial Valuation

Summary of Gains and Losses

As part of the review of the valuation, an actuarial gain/loss analysis was performed. Expected liabilities and plan assets were developed presuming all demographic and economic assumptions from the prior valuation were realized during the plan year. These expected values were then compared to the actual results. The factors causing the liabilities or assets to be greater than expected (a loss for liabilities and a gain for assets), or smaller than expected (a gain for liabilities and a loss for assets) were isolated. Differences in liability not directly attributable to experience different than assumed, such as changes in assumptions and methods, were separately measured from this process.

The different sources of gains and losses, as well as their individual impacts, are outlined below.

Source of Liability (Gain)/Loss due to Actuarial Experience

Source of Demographic (Gain)/Loss	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
(Gains)/Losses due to Plan Experience:		
Active Decrements	\$ (6,123,186)	\$ (2,110,011)
Inactive Mortality	(39,516,638)	(27,018)
Salary Increase	17,540,864	2,331,568
New Entrants	N/A	-
Cost-of-Living Adjustment (COLA) Different than Expected	345,651,919	14,285,212
(Gains)/Losses due to Census Changes:	27,718,263	661,744
(Gains)/Losses due to New Terminated Vested Plan Members:	-	-
(Gains) / Losses due to New Actives Due to Ongoing Data Management:	-	-
Total	\$ 345,271,222	\$ 15,141,495

We have provided clarification on these items below:

- (Gains)/Losses due to Plan Experience:** The liability for each plan is expected to change based on certain demographic and economic assumptions; however, actual plan experience will differ to some degree. This creates (gains) or losses due to plan experience being different than expected with these assumptions. This includes the following primary factors:

- Active Decrements:** The actuarial valuation assumes that each active plan member has a particular probability of terminating, retiring, becoming disabled, or becoming deceased in each year. An individual (gain) or loss is generated based on the plan member's actual status in the current valuation year based on the difference from what was expected. The gain for the Police Officers and Firefighters' and Teachers' Plans is primarily due to favorable retirement experience with fewer Police Officers and Firefighters retiring than expected. The gain for the Judges' is primarily due to favorable retirement experience.

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- **Inactive Mortality:** The actuarial valuation assumes that each inactive plan member has a particular probability of becoming deceased in each year. An individual (gain) or loss is generated based on whether the plan member actually dies during the year. The gain shown for the Police Officers and Firefighters' and Teachers' Plans is driven by plan members in pay status dying at an earlier age and in greater number than expected in the past year. For the Judges' Plan, the mortality gains and losses ultimately resulted in a net gain. The losses incurred by beneficiaries and disableds surviving longer than expected were offset by the gains of retirees dying at an earlier age and in greater number than expected. Long-term gains and losses are expected to offset each other with experience aligning to the assumed mortality probabilities.
- **Salary Increase:** The actuarial valuation assumes that salaries for active plan members will increase by a certain amount. An individual (gain) or loss is generated for each plan member based on their actual salary amount reported in the current valuation. A gain is reported when a plan member's actual salary is lower than the expected amount, and a loss is reported when a plan member's actual salary is higher than the expected amount. The loss for Judges' Plan is due to the actual salary increases exceeding the assumed rate. In FY 2023, Police Officers and Firefighters received pay increases retroactive to October 11, 2020 and Teachers received pay increases retroactive to October 13, 2019. The loss for the Police Officers and Firefighters' and Teachers' Plans due to the retroactive pay increases was \$20.8 million. This was offset by a gain of \$3.3 million due to salary increases being less than expected.
- **New Entrants:** The actuarial valuation incurs a loss whenever new members enter the plan with past service. The Police Officers and Firefighters' and Teachers' Plans are closed and will never incur a gain or loss due to this reason. The Judges' Plan did have seven new entrants but the individuals did not join with past service, therefore there is no (gain) or loss.
- **COLA Different Than Expected:** The actuarial valuation assumes that retirement benefits for inactive plan members that are receiving benefits will increase by a certain amount. An individual (gain) or loss is generated for each plan member based on their actual benefit amount reported in the current valuation. Inflation for 2022 was significantly above recent history creating higher actual COLA percentages than expected and driving losses in the Police Officers and Firefighters' and Teachers' Plans and the Judges' Plan. The actual COLA for Police Officers and Firefighters was 6.50% compared to the 2.15% assumption. The actual COLA for Teachers was 6.30% compared to the 2.14% assumption. The actual COLA for Judges was 8.70% compared to the 1.88% assumption. Additionally, for Police Officers and Firefighters retired prior to February 15, 1980 that receive equalization, the collective bargaining agreement created a loss of \$24.4 million.
- **(Gains)/Losses due to Census Changes:** Each year, ODCP prepares the census data that will be used as the basis for the annual valuation. Inevitably, there will be updates to the census data beyond those that we would expect due to the passage of time. This category of (gain)/loss is described in more detail below.

For the **Police Officers and Firefighters' and Teachers' Plans**, the net loss amount was \$27.7 million and includes the following:

- A \$27.5 million loss resulting from new beneficiaries following the death of plan members for whom the chosen form of payment was unknown.
- A \$0.8 million loss resulting from active plan members who retired or terminated within the past year, primarily due to benefits calculated at retirement different than previously estimated or those who were not eligible to begin benefits in the prior valuation.
- A \$0.6 million net gain resulting from other miscellaneous demographic changes including ongoing data management (unexpected changes to data fields such as hire date, salary, service, amounts etc.) offset by losses from rehires.

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Highlights of the Actuarial Valuation

For the **Judges' Plan**, the total loss amount of \$662,000 includes the following:

- A \$212,000 net loss resulting from active plan members who retired or terminated within the past year, primarily due to benefits calculated at retirement different than previously estimated.
- A \$330,000 net loss resulting from ongoing data management, including unexpected changes to data fields such as hire date, salary, service, etc.
- A \$45,000 loss resulting from data updates for continuing inactive plan members, primarily due to additional spouse information provided with these spouses being younger than assumed.
- A \$75,000 loss resulting from new beneficiaries following the death of plan members.

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Highlights of the Actuarial Valuation

Source of Asset (Gain)/Loss due to Actuarial Experience

Asset (Gain)/Loss	D.C. Federal Pension Fund	Judicial Retirement Fund
Beginning of Year Assets	\$ 3,991,603,721	\$ 196,811,485
Expected Return on Assets	32,235,783	4,908,493
Actual Return on Assets	<u>80,638,894</u>	<u>4,211,915</u>
Asset (Gain)/Loss	\$ (48,403,111)	\$ 696,578

The plan assets experienced the following rates of return during the prior plan year:

	D.C. Federal Pension Fund	Judicial Retirement Fund
Assets	2.01%	2.11%

As noted on page 55 of this report in the Interest Rates for (Gain)/Loss section, the expected return on assets for the Judicial Retirement Fund is based on the prior year effective interest rate of 2.61% while the D.C. Federal Pension Fund's expected return on assets is based on the first rate on the prior year's yield curve, 0.87%. The Judicial Retirement Fund experienced a lower-than-anticipated return of 2.11% on fund assets and the D.C. Federal Pension Fund experienced a higher-than-anticipated return of 2.01% on fund assets, thus resulting in an asset loss and an asset gain, respectively.

Changes in Plan Provisions from the Previous Valuation

The valuation for the current plan year was based on the same plan provisions as the valuation for the prior plan year. We are not aware of any other changes to the plans since the last valuation.

A full summary of the plan provisions and plan changes for each plan (if any) can be found later in this report in Appendix C: Plan Provisions Summary.

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Highlights of the Actuarial Valuation

Source of Liability (Gain)/Loss due to Changes in Actuarial Assumptions from the Previous Valuation

Assumption Change	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
Discount Rate Assumption	\$ 31,565,314	\$ (4,771,150)
Other Economic Assumptions	395,982,245	24,556,682
Non-Economic Assumptions	-	-
Total	\$ 427,547,559	\$ 19,785,532

The discount rate assumption was updated according to prescribed guidance. While the Effective Interest Rate (EIR) for the Police Officers and Firefighters' and Teachers' Plans increased, it did not increase as much as expected, thereby creating a small loss. The EIR for the Judges' Plan increased, causing a gain.

For the Police Officers and Firefighters' and Teachers' Plans and Judges' Plan, the cost-of-living adjustment (COLA) assumption for annuitants increased causing a loss. The wage inflation assumption increased for the Police Officers and Firefighters' Plan and decreased for the Teachers' Plan, which resulted in a net loss. For the Judges' Plan, the other economic assumption change was an increase to the wage inflation assumption for active plan members which caused a loss. A detailed description of the changes since prior year is available in Appendix A: Actuarial Assumptions and Methods.

While RPEC released an updated mortality report in October 2022, they did not produce a Scale MP-2022. Therefore, the Police Officers and Firefighters', and Teachers' Plans, and the Judges' Plan are using the most current projection scale available. A complete description of the actuarial assumptions and rationale can be found in Appendix A: Actuarial Assumptions and Methods and Appendix B: Rationale.

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Highlights of the Actuarial Valuation

Government Contributions

This report includes a calculation of the Government Contribution required to be made before the end of FY 2024 (excluding the reimbursement for expenses). The table below contains Government Contribution (excluding expenses) for FY 2023 and FY 2024.

Contribution Year	Government Contribution (excluding expenses)	
	D.C. Federal Pension Fund	Judiciary Retirement Fund
September 30, 2023	\$ 589,600,000	\$ 22,000,000
September 30, 2024	\$ 659,400,000	\$ 26,200,000

The increase/(decrease) in the Government Contribution amounts from FY2023 to FY2024 is explained in the table below.

	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
Full amortization of the 10/1/2013 Experience gain/loss	\$ 9,900,000	\$ (800,000)
New amortization base for the 10/1/2023 Experience gain/loss	33,000,000	1,800,000
New amortization base for the 10/1/2023 Assumption change gain/loss	26,900,000	1,400,000
Normal Cost change	-	1,900,000
Employee Contribution change	-	(100,000)
Total	\$ 69,800,000	\$ 4,200,000

Executive Summary

Summary of Results

Police Officers and Firefighters', and Teachers' Plans

	Valuation Date	
	October 1, 2023	October 1, 2022
Plan Member Counts		
Actives	430	567
Terminated Vested	240	260
Annuitants	<u>12,780</u>	<u>13,042</u>
Total	13,450	13,869
Contributions		
Federal Required Contribution	\$ 659,400,000	\$ 589,600,000
Present Value of Benefits (PVB)		
Active Plan Members		
Retirement Decrement	\$ 164,412,417	\$ 188,015,325
Termination Decrement	-	-
Disability Decrement	473,029	608,695
Death Decrement	<u>177,645</u>	<u>226,941</u>
Total	\$ 165,063,091	\$ 188,850,961
Inactive Plan Members		
Normal Retirees ¹	\$ 6,720,542,939	\$ 6,478,696,504
Terminated Vested	37,560,508	39,511,106
Disabled Retirees ¹	651,436,268	649,529,509
Beneficiaries	<u>926,060,576</u>	<u>855,563,209</u>
Total	\$ 8,335,600,291	\$ 8,023,300,328
Total PVB (inactive and active)	\$ 8,500,663,382	\$ 8,212,151,289
Unfunded Actuarial Accrued Liability (AAL)		
Active AAL	\$ 165,063,091	\$ 188,850,961
Inactive AAL	<u>8,335,600,291</u>	<u>8,023,300,328</u>
Total AAL	\$ 8,500,663,382	\$ 8,212,151,289
Asset Value as of Valuation Date	\$ (4,108,055,077)	\$ (3,991,603,721)
Unfunded AAL	\$ 4,392,608,305	\$ 4,220,547,568

¹Throughout this report, former spouses receiving benefits under a qualified domestic relations order are not included in counts. Their benefit amounts are included with their associated retired plan member.

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Summary of Results

Judges' Plan

	Valuation Date	
	October 1, 2023	October 1, 2022
Plan Member Counts		
Actives	61	57
Terminated Vested	-	-
Annuitants	<u>104</u>	<u>106</u>
Total	165	163
Contributions		
Government Contribution (excluding expenses)	\$ 26,200,000	\$ 22,000,000
Present Value of Benefits (PVB)		
Active Plan Members		
Retirement Decrement	\$ 185,192,830	\$ 150,387,774
Termination Decrement	-	-
Disability Decrement	-	-
Death Decrement	<u>1,135,412</u>	<u>863,254</u>
Total	\$ 186,328,242	\$ 151,251,028
Inactive Plan Members		
Normal Retirees ¹	\$ 220,896,705	\$ 201,038,833
Terminated Vested	-	-
Disabled Retirees ¹	4,793,614	4,252,423
Beneficiaries	<u>11,632,143</u>	<u>10,168,034</u>
Total	\$ 237,322,462	\$ 215,459,290
Total PVB (inactive and active)	\$ 423,650,704	\$ 366,710,318
Unfunded Actuarial Accrued Liability (AAL)		
Active AAL	\$ 90,636,006	\$ 80,380,614
Inactive AAL	<u>237,322,462</u>	<u>215,459,290</u>
Total AAL	\$ 327,958,468	\$ 295,839,904
Asset Value as of Valuation Date	\$ (206,059,441)	\$ (196,811,485)
Unfunded AAL	\$ 121,899,027	\$ 99,028,419
Total Normal Cost	\$ 9,300,000	\$ 7,400,000
Employee Contributions	<u>(700,000)</u>	<u>(600,000)</u>
Net Employer Normal Cost	\$ 8,600,000	\$ 6,800,000

¹Throughout this report, former spouses receiving benefits under a qualified domestic relations order are not included in counts. Their benefit amounts are included with their associated retired plan member.

Executive Summary

Actuarial Valuation Opinion

This report presents the results of the actuarial valuation of the Program as of October 1, 2023. In our opinion, this report is complete and accurate and represents fairly the actuarial position of the Program for the purposes stated herein.

This actuarial valuation has been prepared based upon plan member data and plan provisions provided by the Department of the Treasury as of May 1, 2023 (plan data was projected to September 30, 2023 by adjusting for expected mortality for inactive plan members) and the estimated asset information projected by the Department of the Treasury to September 30, 2023 (provided on August 10, 2023).

In FY 2023, a collective bargaining agreement was ratified that increased the future and historical salaries for certain participants in the Police Officers and Firefighters' and Teachers' Plans. A factor was provided developed based on the number of years retired to reflect the retroactive pay adjustment for those who retired within the last four years. The historical salaries were also increased to reflect the retroactive pay increase.

We have reviewed the data and other information provided for reasonableness, but have not independently audited the data or other information provided. We have no reason to believe the data and other information provided are not complete and accurate, and know of no further information that is essential to the preparation of the actuarial valuation.

In our opinion, all costs, liabilities, rates of interest, and other factors underlying these actuarial computations have been determined on the basis of actuarial assumptions and methods. Each are reasonable (or consistent with authoritative guidance) for the purposes described herein taking into account the experience of the plans and future expectations. Rates of interest used in this valuation are provided by ODCP and are consistent with authoritative guidance. All other assumptions are reasonable for the purposes described herein.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operations of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on each plan's funded status); and
- Changes in plan provisions or applicable law.

Our scope did not include analyzing the potential range of such future measurements; therefore, this analysis was not performed.

The undersigned with actuarial credentials collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

This report was prepared solely for the benefit and internal use of the Department of the Treasury. This report is not intended for the benefit of any other party and may not be relied upon by any third party for any purpose, and Deloitte Consulting LLP accepts no responsibility or liability with respect to any party other than the Department of the Treasury.

To the best of our knowledge, no employee of the Deloitte U.S. Firms is an officer or director of the employer. In addition, we are not aware of any relationship between the Deloitte U.S. Firms and the employer that may impair or appear to impair the objectivity of the work detailed in this report.

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Assessment of Risk

Risk can be defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience. This section is intended to comply with the requirements of Actuarial Standard of Practice (ASOP) No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions.

Additionally, the interest rate method of averaging the quarterly treasury rate over 40 quarters constitutes a low-default risk obligation measure (LDRM) per Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions.

Measuring pension obligations and calculating actuarially determined contributions require the use of assumptions regarding future economic and demographic experience. However, an intended user of such measurements should understand the effects of future experience differing from the assumptions used in the actuarial valuation and the potential volatility of future measurements resulting from such differences.

Methods used in the assessment of risk may include, but are not limited to scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of an actuarial present value using a discount rate derived from minimal-risk investments to a corresponding actuarial present value from the actuarial valuation.

A more detailed assessment than what is presented below may be beneficial to understand the risks identified. The factors that are considered in making this judgement include risk assessment findings, length of time and changes in plan circumstances since the last assessment, absolute or relative size of the plan, maturity of the plan, funded status, asset allocation, method for determining contributions, or contribution risk (to the extent known by the actuary).

Following is a discussion of the risks that, in our professional judgement, may be anticipated to significantly affect the Program's future financial condition.

For purposes of this section, pension obligations refer to Actuarial Accrued Liability and costs refer to Total Required Government Contribution.

Significant Risks

Below, we have listed a number of anticipated risks that may affect pension plans in general. We have identified potential risks that pertain to ODCP specifically and listed them in order of significance. We have defined "significant risks" as factors that could impact costs or liabilities. Additionally, we have identified any risks that, although they may be relevant to pension plans in general, are not applicable for ODCP.

Cost-of-Living-Adjustment (COLA) Risk

The potential that annual COLA applied to participants' benefits will deviate from expected increases.

The Police Officers and Firefighters', and Teachers' Plans and the Judges' Plan predominantly consist of participants already receiving annuities subject to a cost of living adjustment. The risk of actual COLA deviating from expected increases, in conjunction with the Program's maturity, is a significant risk for ODCP.

Longevity Risk

The potential that mortality experience will be different than expected.

Annuity based plans such as the Police Officers and Firefighters', and Teachers' Plans and the Judges' Plan are subject to longevity risk. Failing to project longevity improvements or to under-project them understates the value of the plan over time. This is particularly acute for plans also subject to a COLA.

Investment Risk

The potential that investment returns will be different than expected.

To the extent that ODCP's investment policy results in more or less cash than expected, there may be a decrease or increase, respectively, in future cost requirements. Due to the makeup of ODCP's portfolio of assets consisting mainly of government treasury bonds, if yields behave differently than expected then the asset returns under the Program could be different than expected causing contribution requirements to increase or decrease.

Interest Rate Risk

The potential that interest rates will be different than expected. As interest rates decrease, the present value of future benefit obligations increases. The magnitude of this risk depends on the Plan's effective duration, maturity, population composition, and benefit structure.

All ODCP plans use the full yield curve derived at the time of the valuation by averaging the quarterly treasury rate over 40 quarters (as published by the Department of the Treasury). A decrease in the yield curve could cause the cost of the plans to increase, while also resulting in an increase in the costs of the bonds to be purchased, thus lowering their return.

Assessment of Risk

Asset/Liability Mismatch Risk

The potential that changes in asset values are not matched by changes in the value of liabilities.

ODCP mitigates interest rate risk by attempting to match asset and liability cash flows. However, the inability to match cash flows due to the limited nature of the available durations of Treasury securities could introduce risk to the Funds.

Data Quality Risk

The potential that the data quality interferes with the ability to develop an accurate estimate of liabilities.

ODCP has implemented many data control processes and procedures to ensure the integrity and quality of their data. Even so, unexpected data breaches or unexpected data changes could have a negative financial impact on the Program.

Legislative and Regulatory Risk

The potential that future legislative or regulatory change could impact the calculation of the obligations and costs of the Program.

Unexpected regulatory rules or new laws could result in reassessing the valuation methods described in this report and could have an impact on the Program. Costs caused by any unexpected regulatory or law change could also pose a potential risk to the Program.

Liquidity Risk

The potential inability to cover short term costs resulting in a quicker than anticipated liquidation of assets.

An unexpected increase in short term benefit obligations could result in a reassessment of ODCP's current investment policy in order to decrease the impact caused by liquidity risk. However, ODCP's current investment policy serves to minimize this occurrence, thereby making this risk less prevalent.

The remaining risks noted below have the potential to impact pension plans in general, however, we concluded that they are not pertinent to the ODCP plans at this time.

Salary Scale Risk

The potential that actual future salary increases deviate from expected future salary increases.

Because the Program consists of predominately inactive plan members, the risks associated with an unexpected increase in active plan members' salaries will have minimal impact on the Program.

Other Demographic Risk

The potential that other demographic experiences will be different than expected.

An unexpected change in assumptions including retirement rates, disability incidence rates, or elected forms of benefit could result in an increase to costs. However, because the Program consists of predominantly inactive plan members, this risk is expected to have minimal impact.

Workforce Risk

The potential that the size and characteristics of the Program's workforce will be different than expected.

For the Police Officers and Firefighters', and Teachers' Plans, active plan members were hired prior to July 1, 1997. Given that these plan members are either retirement eligible or nearly retirement eligible, there is minimal risk that the workforce size or characteristics will deviate from expectation in a way that would introduce significant risk to the plan. While the Judges' Plan is still open and accruing, the workforce is relatively stable in nature, and therefore provides minimal risk overall to the Program.

Contribution Risk

The potential that actual future required contributions will deviate from expected future contributions.

The Program is statutorily funded, thereby eliminating risk associated with future required contributions deviating from expected contributions.

Assessment of Risk

Plan Maturity Measures

As a plan shifts from a young, active population accruing benefits to older retirees, pension obligations and costs may increase until the plan approaches fully inactive, after which time the liability will start to decrease. Both the Judges' Plan and the Police Officers and Firefighters', and Teachers' Plans have significantly more inactive liability than active liability and thus, are considered to have mature to very mature populations.

The tables below detail several plan maturity measures that are significant in understanding the risks associated with the Program. As a plan becomes more mature, obligation grows relative to plan assets. Once the plan is mature, the obligation will stay stable or decrease relative to the plan assets. Depending on the value of the measure, different approaches to asset and liability management may be appropriate. It is important to consider these measures in the context of the plans' provisions and features.

The following table shows a comparison of Active Participant Liability to Inactive Participant Liability for the current and prior years.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
9/30/2023	1.98%	38.19%
9/30/2022	2.35%	37.31%
9/30/2021	3.49%	42.65%
9/30/2020	4.69%	44.33%
9/30/2019	6.09%	47.15%
9/30/2018	6.75%	48.91%
9/30/2017	8.17%	50.92%
9/30/2016	9.63%	55.65%
9/30/2015	11.83%	57.09%
9/30/2014	12.71%	50.49%

The following table shows a comparison of Active Participant Headcount to Inactive Participant Headcount for the current and prior years.¹

Year	Ratio of Active to Inactive Participant Headcount					
	Police	Fire	Teacher	<u>Subtotal</u>	Judges	<u>Total</u>
5/1/2023	1.99%	5.91%	3.88%	3.30%	58.65%	3.74%
5/1/2022	2.93%	8.11%	4.38%	4.26%	53.77%	4.65%
5/1/2021	4.70%	12.98%	4.91%	5.97%	55.34%	6.34%
5/1/2020	6.96%	15.39%	5.43%	7.54%	60.40%	7.93%
5/1/2019	9.84%	18.55%	6.23%	9.58%	61.46%	9.94%
5/1/2018	12.22%	21.03%	7.01%	11.26%	64.89%	11.62%
5/1/2017	15.17%	23.60%	8.24%	13.38%	69.57%	13.75%
5/1/2016	19.12%	26.27%	9.91%	16.16%	73.63%	16.54%
5/31/2015	24.66%	28.76%	11.71%	19.56%	76.14%	19.92%
5/31/2014	28.57%	30.09%	13.19%	21.95%	76.40%	22.31%

¹For years prior to 5/1/2017, Vested Terminated Participants were not included in the inactive participant headcount.

Assessment of Risk

Additional Historical Information

The tables and charts below identify and disclose reasonably available relative historical values of the Program's actuarial measurements that, in the actuary's professional judgement, are significant to understanding the risks of the Program.

Benefit Breakdown by Annuitant Type

The following table shows a summary of the number of plan participants receiving a full or partial federal benefit¹ for the current and prior years (Retirees, Beneficiaries, Disableds).

Year	Police	Firefighters	Teachers	Subtotal	Judges	Total
5/1/2023	6,024	1,938	4,818	12,780	104	12,884
5/1/2022	6,093	1,952	4,997	13,042	106	13,148
5/1/2021	6,096	1,909	5,182	13,187	103	13,290
5/1/2020	6,066	1,925	5,354	13,345	101	13,446
5/1/2019	5,992	1,927	5,521	13,440	96	13,536
5/1/2018	5,956	1,928	5,656	13,540	94	13,634
5/1/2017	5,890	1,918	5,734	13,542	92	13,634
5/1/2016	5,806	1,911	5,842	13,559	91	13,650
5/31/2015	5,605	1,909	5,884	13,398	88	13,486
5/31/2014	5,527	1,931	5,965	13,423	89	13,512

¹Includes annuitants with a deferred federal benefit.

The following table shows a summary of the number of plan participants receiving a full federal benefit for the current and prior years (Retirees, Beneficiaries, Disableds).

Year	Police	Firefighters	Teachers	Subtotal	Judges	Total
5/1/2023	3,191	950	1,332	5,473	104	5,577
5/1/2022	3,307	1,006	1,458	5,771	106	5,877
5/1/2021	3,410	1,047	1,603	6,060	103	6,163
5/1/2020	3,505	1,104	1,756	6,365	101	6,466
5/1/2019	3,591	1,161	1,913	6,665	96	6,761
5/1/2018	3,683	1,206	2,071	6,960	94	7,054
5/1/2017	3,781	1,246	2,197	7,224	92	7,316
5/1/2016	3,881	1,289	2,343	7,513	91	7,604
5/31/2015	3,952	1,323	2,457	7,732	88	7,820
5/31/2014	4,047	1,372	2,626	8,045	89	8,134

The following table shows a summary of the number of plan participants receiving a federal benefit and a District benefit² for the current and prior years (Retirees, Beneficiaries, Disableds).

Year	Police	Firefighters	Teachers	Subtotal	Judges ³	Total
5/1/2023	2,833	988	3,486	7,307	N/A	7,307
5/1/2022	2,786	946	3,539	7,271	N/A	7,271
5/1/2021	2,686	862	3,579	7,127	N/A	7,127
5/1/2020	2,561	821	3,598	6,980	N/A	6,980
5/1/2019	2,401	766	3,608	6,775	N/A	6,775
5/1/2018	2,273	722	3,585	6,580	N/A	6,580
5/1/2017	2,109	672	3,537	6,318	N/A	6,318
5/1/2016	1,925	622	3,499	6,046	N/A	6,046
5/31/2015	1,653	586	3,427	5,666	N/A	5,666
5/31/2014	1,480	559	3,339	5,378	N/A	5,378

²Includes annuitants with a deferred federal benefit.

³These annuitants receive a 100% federal benefit.

Assessment of Risk

Assets

The following table shows the Net Assets Available for Benefits¹ (\$ millions) in each plan for the current and prior years.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
9/30/2023	\$4,108.1	\$206.1	\$4,314.1
9/30/2022	\$3,991.6	\$196.8	\$4,188.4
9/30/2021	\$3,952.5	\$190.1	\$4,142.6
9/30/2020	\$3,870.9	\$182.8	\$4,053.7
9/30/2019	\$3,822.6	\$177.2	\$3,999.8
9/30/2018	\$3,818.5	\$170.1	\$3,988.6
9/30/2017	\$3,851.9	\$162.7	\$4,014.6
9/30/2016	\$3,902.3	\$156.1	\$4,058.4
9/30/2015	\$3,959.3	\$150.4	\$4,109.7
9/30/2014	\$3,975.9	\$146.5	\$4,122.4

¹Securities are valued at amortized cost, not market value.

Liabilities

The following table shows the Accrued Liability (\$ millions) in each plan for the current and prior years.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
9/30/2023	\$8,500.7	\$328.0	\$8,828.7
9/30/2022	\$8,212.2	\$295.8	\$8,508.0
9/30/2021	\$7,778.8	\$276.4	\$8,055.2
9/30/2020	\$8,050.5	\$267.9	\$8,318.4
9/30/2019	\$8,188.7	\$255.4	\$8,444.1
9/30/2018	\$8,163.0	\$255.6	\$8,418.6
9/30/2017	\$8,479.5	\$248.1	\$8,727.6
9/30/2016	\$8,650.3	\$231.5	\$8,881.8
9/30/2015	\$8,687.6	\$219.4	\$8,907.0
9/30/2014	\$9,046.8	\$218.4	\$9,265.2

The following table shows the Unfunded Liability (\$ millions) in each plan for the current and prior years.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
9/30/2023	\$4,392.6	\$121.9	\$4,514.5
9/30/2022	\$4,220.5	\$99.0	\$4,319.5
9/30/2021	\$3,826.3	\$86.3	\$3,912.6
9/30/2020	\$4,179.7	\$85.1	\$4,264.8
9/30/2019	\$4,366.1	\$78.2	\$4,444.3
9/30/2018	\$4,344.5	\$85.5	\$4,430.0
9/30/2017	\$4,627.6	\$85.4	\$4,713.0
9/30/2016	\$4,748.1	\$75.4	\$4,823.5
9/30/2015	\$4,728.4	\$69.0	\$4,797.4
9/30/2014	\$5,070.9	\$71.9	\$5,142.8

Assessment of Risk

Funded Ratio

The following table shows the ratio of the Assets to the Actuarial Accrued Liability.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
9/30/2023	48.3%	62.8%	48.9%
9/30/2022	48.6%	66.5%	49.2%
9/30/2021	50.8%	68.8%	51.4%
9/30/2020	48.1%	68.2%	48.7%
9/30/2019	46.7%	69.4%	47.4%
9/30/2018	46.8%	66.5%	47.4%
9/30/2017	45.4%	65.6%	46.0%
9/30/2016	45.1%	67.4%	45.7%
9/30/2015	45.6%	68.6%	46.1%
9/30/2014	43.9%	67.1%	44.5%

Contributions

The following table shows the amount of the total required government contributions (\$ millions) to each fund for the current and prior years¹.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
FY 2023	\$659.4	\$26.2	\$685.6
FY 2022	\$589.6	\$22.0	\$611.6
FY 2021	\$520.9	\$18.9	\$539.8
FY 2020	\$558.7	\$18.3	\$577.0
FY 2019	\$520.3	\$15.5	\$535.8
FY 2018	\$477.6	\$16.1	\$493.7
FY 2017	\$451.8	\$15.6	\$467.4
FY 2016	\$452.2	\$15.6	\$467.8
FY 2015	\$460.9	\$14.2	\$475.1
FY 2014	\$487.5	\$14.2	\$501.7

¹Payments for FY2018 and after are before administrative expenses for all plans.

Distribution of Benefit Payments

The following table shows the amount of federal benefit payments and refunds paid (\$ millions) to each plan for the current and prior years.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
FY 2023	\$553.3	\$17.7	\$571.1
FY 2022	\$539.0	\$16.5	\$555.5
FY 2021	\$532.2	\$15.0	\$547.2
FY 2020	\$538.9	\$14.2	\$553.1
FY 2019	\$543.3	\$13.3	\$556.6
FY 2018	\$541.1	\$12.5	\$553.6
FY 2017	\$541.4	\$12.2	\$553.6
FY 2016	\$542.4	\$11.8	\$554.2
FY 2015	\$541.7	\$14.1	\$555.8
FY 2014	\$542.9	\$11.9	\$554.8

Assessment of Risk

Investment Performance

The following table shows the history of the approximate rate of return¹ on the Market Value of Assets.

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
FY 2023	2.0%	2.1%
FY 2022	1.5%	1.9%
FY 2021	1.4%	1.8%
FY 2020	1.8%	2.1%
FY 2019	1.8%	2.2%
FY 2018	1.5%	2.3%
FY 2017	1.4%	2.3%
FY 2016	1.0%	2.4%
FY 2015	0.8%	2.2%
FY 2014	1.3%	2.1%

¹Rates from FY2014 and FY2015 are net of expenses for all plans.

The following table shows the total amount of interest earned in each plan from investments for the current and prior years (\$ millions).

Year	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan	Total
FY 2023	\$78.3	\$4.1	\$82.4
FY 2022	\$56.6	\$3.5	\$60.1
FY 2021	\$57.0	\$3.4	\$60.4
FY 2020	\$66.6	\$3.7	\$70.3
FY 2019	\$69.1	\$3.8	\$72.9
FY 2018	\$57.5	\$3.6	\$61.1
FY 2017	\$51.0	\$3.5	\$54.5
FY 2016	\$51.1	\$3.6	\$54.7
FY 2015	\$54.9	\$3.7	\$58.6
FY 2014	\$61.9	\$3.8	\$65.7

The following table shows the rates used for the return on market value of assets ("Asset Return") and the percentage of the amortized cost value of investment ("Liability Rates").

Year	Police Officers and Firefighters', and Teachers' Plans		Judges' Plan	
	Liability Rates	Asset Return	Liability Rates	Asset Return
FY 2023	1.3% - 3.3%	2.0%	1.3% - 3.3%	2.1%
FY 2022	0.9% - 3.2%	1.5%	0.9% - 3.2%	1.9%
FY 2021	0.8% - 3.3%	1.4%	0.8% - 3.3%	1.8%
FY 2020	0.8% - 3.6%	1.8%	0.8% - 3.6%	2.1%
FY 2019	0.7% - 3.8%	1.8%	0.7% - 3.8%	2.2%
FY 2018	0.6% - 3.9%	1.5%	0.6% - 3.9%	2.3%
FY 2017	0.7% - 4.0%	1.4%	0.7% - 4.0%	2.3%
FY 2016	1.1% - 4.2%	1.0%	1.1% - 4.2%	2.4%
FY 2015	1.5% - 4.3%	0.8%	1.5% - 4.3%	2.2%
FY 2014	1.7% - 4.4%	1.3%	1.7% - 4.4%	2.1%

Assessment of Risk

(Gains)/Losses

The following table shows the Historical (Gains)/Losses in each plan for the current and prior years (in millions). The plans will experience deviations from expected each year. The amount of the deviation is amortized over future years and included in the contribution calculation.

Year	Police Officers and Firefighters', and Teachers' Plans			Judges' Plan		
	Actuarial (Gain)/Loss - Investment	Actuarial (Gain)/Loss - Experience	Actuarial (Gain)/Loss - Method/ Assumptions	Actuarial (Gain)/Loss - Investment	Actuarial (Gain)/Loss - Experience	Actuarial (Gain)/Loss - Method/ Assumptions
9/30/2023	(\$48.4)	\$345.3	\$427.5	\$0.7	\$15.1	\$19.8
9/30/2022	(\$28.1)	\$374.1	\$538.3	\$1.2	\$12.2	\$9.7
9/30/2021	(\$25.9)	(\$42.4)	\$239.0	\$1.8	\$1.7	\$7.9
9/30/2020	(\$40.7)	\$48.5	\$293.7	\$1.7	\$4.6	\$9.0
9/30/2019	(\$48.9)	\$30.3	\$492.0	\$1.5	\$4.3	(\$4.8)
9/30/2018	(\$30.6)	\$52.2	\$114.0	\$1.6	\$4.1	\$1.7
9/30/2017	(\$12.2)	\$25.7	\$251.0	\$1.8	\$1.6	\$13.1
9/30/2016	\$4.3	(\$63.0)	\$484.5	\$2.0	(\$2.2)	\$11.7
9/30/2015	\$9.8	(\$69.8)	\$100.1	\$1.4	(\$0.3)	\$1.1
9/30/2014	\$7.0	(\$66.0)	\$354.3	\$1.9	\$21.3	\$4.8

Inflation Assumptions

The following table shows the annual long term actuarial general pay and inflation assumptions in each plan for the current and prior years. The inflation assumption is used to project future pay for the active population.

Year	Cost-of-Living	Police/Fire Pay	Teachers Pay	Judges Pay
FY 2023	2.6% - 2.6%	2.55% - 2.75%	2.1%	1.7%
FY 2022	1.9% - 2.2%	2.15% - 2.20%	2.3%	1.3%
FY 2021	1.7% - 1.8%	2.15% - 2.20%	2.3%	1.0%
FY 2020	1.5% - 1.8%	2.15% - 2.20%	2.3%	0.9%
FY 2019	1.4% - 1.8%	1.95% - 2.00%	2.3%	0.8%
FY 2018	1.6% - 1.7%	1.8% - 2.2%	2.4%	1.0%
FY 2017	1.7% - 1.9%	1.8% - 2.2%	3.0%	1.1%
FY 2016	1.9% - 2.0%	2.0% - 2.2%	3.0%	1.2%
FY 2015	2.1% - 2.4%	2.2%	3.0%	1.7%
FY 2014	2.4% - 2.5%	2.2% - 2.3%	3.0%	1.9%

Plan Cost

Amortization Schedule and Required Government Contribution

Police Officers and Firefighters', and Teachers' Plans

Amortization Base	Remaining Number of Years	Annual Amortization Installment	Outstanding Balance as of October 1, 2023
Initial Unfunded Accrued Liability	4	\$ 348,600,000	1,341,726,757
Assumption Change 10/1/2004	1	13,700,000	13,524,186
Assumption Change 10/1/2005	2	(6,300,000)	(12,347,596)
Assumption Change 10/1/2006	3	39,800,000	116,010,672
Assumption Change 10/1/2007	4	3,600,000	13,856,042
Assumption Change 10/1/2008	5	3,300,000	15,710,881
Assumption Change 10/1/2009	6	40,700,000	229,971,806
Assumption Change 10/1/2010	7	10,500,000	68,432,667
Assumption Change 10/1/2011	8	6,900,000	50,794,855
Assumption Change 10/1/2012	9	32,500,000	265,970,442
Assumption Change 10/1/2013	10	18,700,000	167,990,208
Funding Method Change 10/1/2013	10	(34,800,000)	(312,623,488)
(Gain)/Loss 10/1/2014	1	(6,900,000)	(6,811,451)
Assumption Change 10/1/2014	11	13,400,000	130,790,125
(Gain)/Loss 10/1/2015	2	(7,000,000)	(13,719,551)
Assumption Change 10/1/2015	12	(4,000,000)	(42,061,693)
(Gain)/Loss 10/1/2016	3	(10,000,000)	(29,148,410)
Assumption Change 10/1/2016	13	20,600,000	231,694,688
Method Change 10/1/2016	13	500,000	5,623,657
(Gain)/Loss 10/1/2017	4	1,500,000	5,773,351
Assumption Change 10/1/2017	14	5,000,000	59,780,048
(Gain)/Loss 10/1/2018	5	2,400,000	11,426,095
Assumption Change 10/1/2018	15	(1,600,000)	(20,227,913)
(Gain)/Loss 10/1/2019	6	(2,100,000)	(11,865,867)
Assumption Change 10/1/2019	16	26,300,000	349,938,395
(Gain)/Loss 10/1/2020	7	900,000	5,865,657
Assumption Change 10/1/2020	17	12,000,000	167,373,164
(Gain)/Loss 10/1/2021	8	(7,500,000)	(55,211,799)
Assumption Change 10/1/2021	18	9,600,000	139,851,923
(Gain)/Loss 10/1/2022	9	38,000,000	310,980,825
Assumption Change 10/1/2022	19	31,200,000	473,221,528
(Gain)/Loss 10/1/2023	10	33,000,000	296,868,111
Assumption Change 10/1/2023 ¹	20	26,900,000	423,449,990
Total Amortization		\$ 659,400,000	\$ 4,392,608,305
Total Normal Cost with Interest		\$ -	
Employee Contributions		-	
Net Employer Normal Cost		\$ -	
Total Required Government Contribution as of September 30, 2023²		\$ 659,400,000	

¹ Includes assumption change impact, \$427,547,559, as well as effect of discount rate change on prior amortization balances, (\$4,097,569).

² Before administrative expenses.

Plan Cost

Amortization Schedule and Required Government Contribution

Judges' Plan

Amortization Base	Remaining Number of Years	Annual Amortization Installment	Outstanding Balance as of October 1, 2023
Initial Unfunded Accrued Liability	4	\$ 2,100,000	\$ 7,854,684
Assumption Change 10/1/2004	1	200,000	194,666
Assumption Change 10/1/2006	3	600,000	1,705,686
Assumption Change 10/1/2008	5	200,000	922,781
Assumption Change 10/1/2009	6	(800,000)	(4,371,349)
Assumption Changes 10/1/2010	7	1,500,000	9,437,686
Assumption Changes 10/1/2011	8	100,000	709,732
Assumption Changes 10/1/2012	9	600,000	4,728,825
Assumption Changes 10/1/2013	10	400,000	3,457,806
Funding Method Change 10/1/2013	10	(1,000,000)	(8,644,515)
(Gain)/Loss 10/1/2014	1	2,900,000	2,822,659
Assumption Change 10/1/2014	11	200,000	1,877,461
(Gain)/Loss 10/1/2015	2	100,000	192,070
Assumption Change 10/1/2016	13	300,000	3,244,193
Method Change 10/1/2016	13	500,000	5,406,989
(Gain)/Loss 10/1/2017	4	400,000	1,496,130
Assumption Change 10/1/2017	14	800,000	9,199,126
(Gain)/Loss 10/1/2018	5	700,000	3,229,733
Assumption Change 10/1/2018	15	100,000	1,216,557
(Gain)/Loss 10/1/2019	6	700,000	3,824,930
Assumption Change 10/1/2019	16	(400,000)	(5,125,782)
(Gain)/Loss 10/1/2020	7	700,000	4,404,254
Assumption Change 10/1/2020	17	600,000	8,067,620
(Gain)/Loss 10/1/2021	8	400,000	2,838,930
Assumption Change 10/1/2021	18	400,000	5,624,308
(Gain)/Loss 10/1/2022	9	1,500,000	11,822,062
Assumption Change 10/1/2022	19	600,000	8,795,466
(Gain)/Loss 10/1/2023	10	1,800,000	15,838,073
Assumption Change 10/1/2023 ¹	20	1,400,000	21,128,246
Total Amortization		\$ 17,600,000	\$ 121,899,027
Total Normal Cost with Interest		\$ 9,300,000	
Employee Contributions		(700,000)	
Net Employer Normal Cost		\$ 8,600,000	
Total Required Government Contribution as of September 30, 2023²		\$ 26,200,000	

¹ Includes assumption change impact, \$19,785,532, as well as effect of discount rate change on prior amortization balances, \$1,342,714.

² Before administrative expenses.

Changes in Actuarial Accrued Liability

Reconciliation of Actuarial (Gain)/Loss

	Police Officers and Firefighters', and Teachers' Plans		Judges' Plan	
Assets				
As of October 1, 2022, before adjustments	\$	3,991,603,721	\$	196,811,485
As of October 1, 2022, after adjustments		3,993,629,285		196,898,940
Contributions:				
Employees	\$	-	\$	760,208
Employer		608,495,045		22,529,278
Total		608,495,045		23,289,486
Benefits Paid		(553,345,352)		(17,706,643)
Expenses Paid		(19,337,231)		(546,802)
Income (including adjustments)		80,638,894		4,211,915
Expected Income		32,235,783		4,908,493
Expected End of Year Value		4,059,651,966		206,756,019
October 1, 2023 (Projected) Value		4,108,055,077		206,059,441
Asset (Gain)/Loss	\$	(48,403,111)	\$	696,578
Liabilities				
October 1, 2022 AAL	\$	8,212,151,289	\$	295,839,904
Normal Cost:				
Employees		-		600,000
Employers		-		6,800,000
Total		-		7,400,000
Benefits Paid		(553,345,352)		(17,706,643)
Interest		69,038,664		7,498,180
Expected September 30, 2023 AAL		7,727,844,601		293,031,441
Actual September 30, 2023 AAL before assumption and method changes ¹		8,073,115,823		308,172,936
Liability (Gain)/Loss		345,271,222		15,141,495
Total Experience (Gain)/Loss	\$	296,868,111	\$	15,838,073

Summary of Changes in Assumptions and Methods

(Gains)/Losses	Police Officers and Firefighters', and Teachers' Plans		Judges' Plan	
Change in Discount Rate		31,565,314		(4,771,150)
Change in Other Economic Assumptions ²		395,982,245		24,556,682
Change in Non-Economic Assumptions		-		-
Total Impact	\$	427,547,559	\$	19,785,532
Actual End of Year AAL after assumption and method changes	\$	8,500,663,382	\$	327,958,468

¹ Liabilities as of October 1, 2023 for the Police Officers and Firefighters', and Teachers' Plans calculated for this purpose are based on 2023 spot rates implied by the 2022 spot rate yield curve. These spot rates used in gain/loss analysis were calculated by converting the 2022 spot rates to forward rates, removing the forward rate for FY 2023, and then converting the forward rates back to spot rates. See Appendix A: Actuarial Assumptions and Methods for an example of the rates.

² Includes Projected COLA and wage increase assumption changes.

Asset Information

Statement of Changes in Net Plan Assets

The following table is based on the unaudited statement of assets projected to September 30, 2023, as provided by the Department of the Treasury on August 10, 2023.

Values from the statement are unrounded and truncated to the dollar.

	Police Officers and Firefighters', and Teachers' Plans	Judges' Plan
Projected net assets available for benefits as of October 1, 2022	\$ 3,991,603,721	\$ 196,811,485
Adjusted from estimate to actual	<u>2,025,564</u>	<u>87,456</u>
Actual net assets available as of October 1, 2022	\$ 3,993,629,285	\$ 196,898,940
Additions		
Contributions:		
Government contributions (amortization payment)	\$ 608,495,045	\$ 22,529,278
Employee contributions	<u>-</u>	<u>760,208</u>
Total contributions	\$ 608,495,045	\$ 23,289,486
Investment income (including interest) ²	78,280,383	4,106,936
Miscellaneous additions	<u>332,947</u>	<u>17,524</u>
Total additions	\$ 687,108,376	\$ 27,413,945
Deductions		
Benefit payments:		
Annuities - Federal only	\$ (553,341,023)	\$ (17,042,832)
Refunds of contributions	<u>(4,329)</u>	<u>(663,811)</u>
Total benefit payments	\$ (553,345,352)	\$ (17,706,643)
Expenses and fees:		
Administrative expenses	\$ (21,862,168)	\$ (529,278)
Bad debt expense	(109,239)	-
Imputed Costs	(332,947)	(17,524)
Other expenses	<u>2,967,124</u>	<u>-</u>
Total expenses and fees	\$ (19,337,231)	\$ (546,802)
Total deductions	\$ (572,682,584)	\$ (18,253,444)
Net additions/(deductions)	\$ 114,425,792	\$ 9,160,501
Net assets available for benefits as of October 1, 2023	\$ 4,108,055,077	\$ 206,059,441

¹ The approximate rate of return on the Market Value of Assets is 2.01% for the Police Officers and Firefighters', and Teacher's Plans, and 2.11% for the Judges' Plan.

Benefit Payments and Funding Projections

Benefit Payment Projections

Police Officers and Firefighters', and Teachers' Plans (closed group)

Fiscal Year Ending In	Expected Net Benefit Payments	Fiscal Year Ending In	Expected Net Benefit Payments
2024	\$ 568,107,792	2062	\$ 35,677,799
2025	563,300,920	2063	30,263,984
2026	556,792,863	2064	25,428,291
2027	548,586,240	2065	21,160,576
2028	538,926,999	2066	17,442,880
2029	527,895,917	2067	14,248,921
2030	515,522,748	2068	11,544,019
2031	501,821,665	2069	9,286,208
2032	486,929,732	2070	7,428,476
2033	470,829,728	2071	5,920,951
2034	453,631,141	2072	4,713,203
2035	435,431,120	2073	3,756,596
2036	416,350,162	2074	3,005,976
2037	396,525,385	2075	2,420,838
2038	376,120,800	2076	1,966,141
2039	355,309,829	2077	1,612,559
2040	334,276,915	2078	1,336,215
2041	313,215,543	2079	1,118,302
2042	292,322,823	2080	944,322
2043	271,790,336	2081	803,340
2044	251,795,789	2082	687,366
2045	232,495,250	2083	590,557
2046	214,016,317	2084	508,753
2047	196,453,220	2085	438,955
2048	179,865,094	2086	378,892
2049	164,276,760	2087	326,940
2050	149,682,460	2088	281,716
2051	136,052,100	2089	242,052
2052	123,338,389	2090	207,145
2053	111,484,252	2091	176,328
2054	100,429,624	2092	149,025
2055	90,116,836	2093	124,849
2056	80,495,129	2094	103,490
2057	71,523,204	2095	84,723
2058	63,170,621	2096	68,425
2059	55,417,748	2097	54,395
2060	48,253,606	2098	42,461
2061	41,673,920		

Benefit Payments and Funding Projections

Benefit Payment Projections

Police Officers (closed group)

Fiscal Year Ending In	Expected Net Benefit Payments	Fiscal Year Ending In	Expected Net Benefit Payments
2024	\$ 278,370,367	2062	\$ 25,020,059
2025	278,259,773	2063	21,230,218
2026	277,319,169	2064	17,827,222
2027	275,544,901	2065	14,815,961
2028	273,047,605	2066	12,192,105
2029	269,867,915	2067	9,942,011
2030	265,998,057	2068	8,043,268
2031	261,384,129	2069	6,466,209
2032	256,075,362	2070	5,176,300
2033	250,091,408	2071	4,136,318
2034	243,422,964	2072	3,308,534
2035	236,092,830	2073	2,656,809
2036	228,143,991	2074	2,147,922
2037	219,627,931	2075	1,752,514
2038	210,610,720	2076	1,445,582
2039	201,169,360	2077	1,206,544
2040	191,391,425	2078	1,018,922
2041	181,374,806	2079	869,902
2042	171,224,544	2080	749,733
2043	161,047,808	2081	651,145
2044	150,948,752	2082	568,827
2045	141,023,603	2083	498,914
2046	131,355,234	2084	438,675
2047	122,009,569	2085	386,117
2048	113,033,653	2086	339,739
2049	104,455,085	2087	298,519
2050	96,283,293	2088	261,565
2051	88,512,702	2089	228,135
2052	81,127,003	2090	197,808
2053	74,103,753	2091	170,256
2054	67,419,074	2092	145,208
2055	61,051,649	2093	122,534
2056	54,985,967	2094	102,139
2057	49,214,034	2095	83,966
2058	43,736,399	2096	68,018
2059	38,561,692	2097	54,186
2060	33,704,591	2098	42,358
2061	29,184,042		

Benefit Payments and Funding Projections

Benefit Payment Projections

Firefighters (closed group)

Fiscal Year Ending In	Expected Net Benefit Payments	Fiscal Year Ending In	Expected Net Benefit Payments
2024	\$ 99,360,105	2062	\$ 8,204,173
2025	98,662,162	2063	7,055,044
2026	97,610,537	2064	6,017,635
2027	96,236,455	2065	5,088,135
2028	94,583,541	2066	4,262,709
2029	92,677,117	2067	3,537,309
2030	90,530,528	2068	2,907,261
2031	88,173,846	2069	2,366,994
2032	85,621,716	2070	1,910,013
2033	82,896,412	2071	1,528,922
2034	80,022,575	2072	1,215,603
2035	77,023,682	2073	961,488
2036	73,926,600	2074	757,954
2037	70,758,553	2075	596,627
2038	67,545,967	2076	469,723
2039	64,313,048	2077	370,320
2040	61,080,678	2078	292,460
2041	57,866,594	2079	231,269
2042	54,685,258	2080	182,864
2043	51,548,022	2081	144,223
2044	48,463,576	2082	113,145
2045	45,438,633	2083	88,005
2046	42,478,741	2084	67,627
2047	39,588,817	2085	51,187
2048	36,773,633	2086	38,040
2049	34,038,172	2087	27,670
2050	31,387,935	2088	19,646
2051	28,829,050	2089	13,579
2052	26,368,093	2090	9,114
2053	24,011,811	2091	5,926
2054	21,766,695	2092	3,724
2055	19,638,334	2093	2,256
2056	17,631,104	2094	1,315
2057	15,748,084	2095	736
2058	13,990,828	2096	395
2059	12,359,512	2097	203
2060	10,852,980	2098	99
2061	9,468,921		

Benefit Payments and Funding Projections

Benefit Payment Projections

Teachers (closed group)

Fiscal Year Ending In	Expected Net Benefit Payments	Fiscal Year Ending In	Expected Net Benefit Payments
2024	\$ 190,377,320	2062	\$ 2,453,567
2025	186,378,986	2063	1,978,722
2026	181,863,156	2064	1,583,434
2027	176,804,885	2065	1,256,479
2028	171,295,852	2066	988,066
2029	165,350,884	2067	769,601
2030	158,994,164	2068	593,490
2031	152,263,690	2069	453,004
2032	145,232,654	2070	342,163
2033	137,841,908	2071	255,711
2034	130,185,602	2072	189,066
2035	122,314,608	2073	138,299
2036	114,279,571	2074	100,099
2037	106,138,902	2075	71,697
2038	97,964,114	2076	50,837
2039	89,827,421	2077	35,695
2040	81,804,812	2078	24,834
2041	73,974,144	2079	17,130
2042	66,413,021	2080	11,725
2043	59,194,507	2081	7,973
2044	52,383,462	2082	5,394
2045	46,033,013	2083	3,638
2046	40,182,342	2084	2,451
2047	34,854,834	2085	1,651
2048	30,057,808	2086	1,113
2049	25,783,503	2087	751
2050	22,011,232	2088	505
2051	18,710,347	2089	338
2052	15,843,293	2090	224
2053	13,368,688	2091	146
2054	11,243,856	2092	94
2055	9,426,853	2093	59
2056	7,878,058	2094	36
2057	6,561,086	2095	21
2058	5,443,394	2096	12
2059	4,496,545	2097	7
2060	3,696,035	2098	3
2061	3,020,957		

Benefit Payments and Funding Projections

Benefit Payment Projections

Judges' Plan (open group)

Fiscal Year Ending In	Expected Net Benefit Payments ¹
2024	\$ 17,704,011
2025	17,866,790
2026	18,096,263
2027	18,183,852
2028	18,519,548
2029	18,705,379
2030	19,193,837
2031	19,473,720
2032	19,641,904
2033	19,538,561
2034	19,475,686
2035	19,411,486
2036	19,384,769
2037	19,160,593
2038	19,020,317
2039	18,839,581
2040	18,877,563
2041	19,075,262
2042	19,005,458
2043	19,062,594
2044	19,180,418
2045	19,226,694
2046	19,209,271
2047	19,214,280
2048	19,226,938

¹ Expected Net Benefit Payments are net of retiree contributions paid to provide for survivor benefits.

Benefit Payments and Funding Projections

Benefit Payment Projections

Judges' Plan (closed group)

Fiscal Year Ending In	Expected Net Benefit Payments ¹	Fiscal Year Ending In	Expected Net Benefit Payments ¹
2024	\$ 17,704,011	2062	\$ 8,039,753
2025	17,866,737	2063	7,562,874
2026	18,096,088	2064	7,091,708
2027	18,183,491	2065	6,625,775
2028	18,518,928	2066	6,164,943
2029	18,704,407	2067	5,709,884
2030	19,192,578	2068	5,262,198
2031	19,471,501	2069	4,823,564
2032	19,638,385	2070	4,396,050
2033	19,533,266	2071	3,981,830
2034	19,468,245	2072	3,582,920
2035	19,378,437	2073	3,201,192
2036	19,315,849	2074	2,838,410
2037	19,041,719	2075	2,496,044
2038	18,809,617	2076	2,175,552
2039	18,505,713	2077	1,878,044
2040	18,191,100	2078	1,604,367
2041	18,131,177	2079	1,355,170
2042	17,738,067	2080	1,130,600
2043	17,464,908	2081	930,706
2044	17,150,889	2082	755,165
2045	16,743,888	2083	603,217
2046	16,183,210	2084	473,829
2047	15,680,549	2085	365,675
2048	15,167,443	2086	276,995
2049	14,653,430	2087	205,762
2050	14,207,528	2088	149,766
2051	13,688,265	2089	106,726
2052	13,247,202	2090	74,404
2053	12,658,205	2091	50,704
2054	12,160,544	2092	33,754
2055	11,669,862	2093	21,937
2056	11,110,171	2094	13,903
2057	10,565,734	2095	8,588
2058	10,036,036	2096	5,171
2059	9,520,173	2097	3,037
2060	9,016,707	2098	1,738
2061	8,523,803		

¹ Expected Net Benefit Payments are net of retiree contributions paid to provide for survivor benefits.

Benefit Payments and Funding Projections

District Benefit Payments

Police Officers and Firefighters', and Teachers' Plans

Fiscal Year Ending In	Benefits Paid by District (\$ millions)	
1998-1999	\$	2.3
2000		3.9
2001		4.6
2002		6.7
2003		10.9
2004		16.2
2005		21.7
2006		28.6
2007		38.4
2008		47.1
2009		58.1
2010		65.5
2011		73.3
2012		86.0
2013		99.8
2014		112.6
2015		126.4
2016		146.0
2017		163.0
2018		183.8
2019		201.1
2020		223.9
2021		244.5
2022		271.8
2023		308.3

Benefit Payments and Funding Projections

15-Year Funding Projections - Closed Group

Police Officers and Firefighters', and Teachers' Plans

Fiscal Year Ending In	Expected Return on Assets	Beginning of Year Assets	Federal Contribution (with Expense Reimbursement)	Net Benefit Payments	Expenses	Investment Return	End of Year Assets
2024	1.30%	\$ 4,108,055,077	\$ 689,200,000	\$ (568,107,792)	\$ (29,800,000)	\$ 49,518,315	\$ 4,248,865,600
2025	1.48%	4,248,865,600	681,000,000	(563,300,920)	(28,400,000)	58,507,785	4,396,672,465
2026	1.87%	4,396,672,465	695,800,000	(556,792,863)	(29,900,000)	76,763,295	4,582,542,897
2027	2.23%	4,582,542,897	666,300,000	(548,586,240)	(30,200,000)	95,810,629	4,765,867,286
2028	2.42%	4,765,867,286	313,100,000	(538,926,999)	(30,700,000)	108,527,964	4,617,868,251
2029	2.52%	4,617,868,251	308,000,000	(527,895,917)	(31,300,000)	109,401,825	4,476,074,159
2030	2.60%	4,476,074,159	270,000,000	(515,522,748)	(31,900,000)	109,331,637	4,307,983,048
2031	2.70%	4,307,983,048	259,200,000	(501,821,665)	(32,500,000)	109,173,261	4,142,034,644
2032	2.68%	4,142,034,644	260,500,000	(486,929,732)	(33,200,000)	104,086,114	3,986,491,026
2033	2.80%	3,986,491,026	190,700,000	(470,829,728)	(33,900,000)	104,614,816	3,777,076,114
2034	2.92%	3,777,076,114	174,400,000	(453,631,141)	(34,500,000)	103,232,436	3,566,577,409
2035	2.92%	3,566,577,409	161,700,000	(435,431,120)	(35,200,000)	97,326,653	3,354,972,942
2036	3.15%	3,354,972,942	166,400,000	(416,350,162)	(35,900,000)	98,644,716	3,167,767,496
2037	3.27%	3,167,767,496	146,000,000	(396,525,385)	(36,600,000)	96,599,006	2,977,241,117
2038	3.24%	2,977,241,117	141,800,000	(376,120,800)	(37,400,000)	89,834,684	2,795,355,001

Benefit Payments and Funding Projections

15-Year Funding Projections - Open Group

Judges' Plan

Fiscal Year Ending In	Expected Return on Assets	Beginning of Year Assets	Employee Contributions	Federal Contribution (with Expense Reimbursement)	Net Benefit Payments	Expenses	Investment Return	End of Year Assets
2024	1.30%	\$ 206,059,441	\$ 655,995	\$ 26,900,000	\$ (17,704,011)	\$ (700,000)	\$ 2,563,411	\$ 217,774,836
2025	1.48%	217,774,836	666,950	23,943,620	(17,866,790)	(700,000)	3,090,776	226,909,392
2026	1.87%	226,909,392	678,088	23,989,638	(18,096,263)	(700,000)	4,075,452	236,856,307
2027	2.23%	236,856,307	689,412	23,538,095	(18,183,852)	(700,000)	5,082,921	247,282,883
2028	2.42%	247,282,883	700,925	21,189,032	(18,519,548)	(700,000)	5,764,763	255,718,055
2029	2.52%	255,718,055	712,631	20,542,488	(18,705,379)	(800,000)	6,211,702	263,679,497
2030	2.60%	263,679,497	724,532	20,798,508	(19,193,837)	(800,000)	6,609,410	271,818,110
2031	2.70%	271,818,110	736,632	18,757,133	(19,473,720)	(800,000)	7,079,947	278,118,102
2032	2.68%	278,118,102	748,933	18,418,407	(19,641,904)	(800,000)	7,193,088	284,036,626
2033	2.80%	284,036,626	761,440	16,482,375	(19,538,561)	(800,000)	7,683,300	288,625,180
2034	2.92%	288,625,180	774,157	15,449,080	(19,475,686)	(800,000)	8,148,542	292,721,273
2035	2.92%	292,721,273	787,085	15,418,570	(19,411,486)	(800,000)	8,268,436	296,983,878
2036	3.15%	296,983,878	800,229	15,690,890	(19,384,769)	(900,000)	9,056,007	302,246,235
2037	3.27%	302,246,235	813,593	15,066,088	(19,160,593)	(900,000)	9,578,144	307,643,467
2038	3.24%	307,643,467	827,180	14,444,212	(19,020,317)	(900,000)	9,665,991	312,660,533

Basis for the Valuation

Plan Member Summary

Police Officers and Firefighters', and Teachers' Plans

	Police Officers	Firefighters	Teachers	Total
Date Of Census Data:	5/1/2023	5/1/2023	5/1/2023	5/1/2023
Plan Member Counts:				
Actives	120	115	195	430
Terminated Vested	20	8	212	240
Normal Retirees ¹ - Current Benefits	3,984	1,262	4,233	9,479
Normal Retirees - Deferred Benefits	2	0	0	2
Beneficiaries	1,361	457	402	2,220
Disabled Retirees - Current Benefits	640	211	176	1,027
Disabled Retirees - Deferred Benefits	37	8	7	52
Total	6,164	2,061	5,225	13,450
Active Plan Member Characteristics:				
Total Pay	\$ 16,857,821	\$ 15,327,644	\$ 25,443,421	\$ 57,628,886
Average Age	54.48	55.19	59.94	57.15
Average Service	30.90	30.28	31.99	31.23
Inactive Plan Member Characteristics:				
<u>Average Age:</u>				
Terminated Vested	57.07	55.86	63.27	62.51
Normal Retirees	68.81	69.43	78.84	73.38
Beneficiaries	76.11	78.98	80.63	77.52
Disabled Retirees	71.85	75.83	78.07	73.71
<u>Total Annual Federal Benefits - Current:</u>				
Normal Retirees	\$ 197,460,994	\$ 69,604,438	\$ 177,991,440	\$ 445,056,872
Beneficiaries	51,347,700	17,629,164	9,021,012	77,997,876
Disabled Retirees	28,042,542	11,936,052	5,200,428	45,179,022
<u>Total Annual Federal Benefits - Deferred:</u>				
Terminated Vested	\$ 286,872	\$ 103,788	\$ 1,242,264	\$ 1,632,924
Normal Retirees	21,012	-	-	21,012
Disabled Retirees	321,804	72,204	38,544	432,552

¹ Throughout this report, "Normal Retirees" refer to Voluntary Retirements for the District of Columbia Teachers' Retirement Plan and Optional Retirements for the District of Columbia Police Officers and Firefighters' Retirement Plan.

Basis for the Valuation
Plan Member Summary
Judges' Plan

	Total
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Date of Census Data	5/1/2023
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Plan Member Counts:

Actives	61
Terminated Vested	0
Normal Retirees ¹	87
Beneficiaries	15
Disabled Retirees	2
Total	165

Active Plan Member Characteristics

Total Compensation for Covered Plan Members	\$ 14,301,600
Average Age	56.51
Average Service	10.24

Inactive Plan Member Characteristics

<u>Average Age</u>	
Terminated Vested	N/A
Normal Retirees	77.08
Beneficiaries	83.85
Disabled Retirees	65.83
<u>Total Annual Benefits</u>	
Terminated Vested	N/A
Normal Retirees	\$ 15,611,995
Beneficiaries	1,382,400
Disabled Retirees	281,419

¹ Throughout this report, "Normal Retirees" refer to Regular Retirements for the District of Columbia Judges' Retirement Plan.

Basis for the Valuation Plan Member Reconciliation

The following tables show a reconciliation of the number of plan members from the previous census date to the current census date.

Police Officers and Firefighters', and Teachers' Plans

	Actives	Terminated Vested	Normal Retirees	Beneficiaries	Disabled Retirees	Totals
Plan Members as of May 1, 2022	567	260	9,651	2,227	1,164	13,869
New Plan Members	0	0	0	0	0	0
Rehires	4	(4)	0	0	0	0
Vested Terminations	(2)	2	0	0	0	0
Retirements	(135)	(17)	152	0	0	0
Deaths - Beneficiary	(1)	0	(96)	133	(34)	2
Deaths - No Beneficiary	(1)	0	(228)	(133)	(53)	(415)
Refund of Contributions	0	(1)	0	0	0	(1)
Disabled	(1)	0	0	0	1	0
Payments Reinstated/Ceased	0	0	0	(5)	0	(5)
Data Corrections	(1)	0	2	(2)	1	0
Plan Members as of May 1, 2023	430	240	9,481	2,220	1,079	13,450

Police Officers

	Actives	Terminated Vested	Normal Retirees	Beneficiaries	Disabled Retirees	Totals
Plan Members as of May 1, 2022	179	22	4,012	1,362	719	6,294
New Plan Members	0	0	0	0	0	0
Rehires	0	0	0	0	0	0
Vested Terminations	0	0	0	0	0	0
Retirements	(58)	(2)	60	0	0	0
Deaths - Beneficiary	0	0	(48)	73	(23)	2
Deaths - No Beneficiary	0	0	(39)	(72)	(21)	(132)
Refund of Contributions	0	0	0	0	0	0
Disabled	(1)	0	0	0	1	0
Payments Reinstated/Ceased	0	0	0	(3)	0	(3)
Data Corrections	0	0	1	1	1	3
Plan Members as of May 1, 2023	120	20	3,986	1,361	677	6,164

Basis for the Valuation Plan Member Reconciliation

The following tables show a reconciliation of the number of plan members from the previous census date to the current census date.

Firefighters

	Actives	Terminated Vested	Normal Retirees	Beneficiaries	Disabled Retirees	Totals
Plan Members as of May 1, 2022	159	9	1,256	456	240	2,120
New Plan Members	0	0	0	0	0	0
Rehires	0	0	0	0	0	0
Vested Terminations	0	0	0	0	0	0
Retirements	(44)	(1)	45	0	0	0
Deaths - Beneficiary	0	0	(25)	36	(11)	0
Deaths - No Beneficiary	0	0	(15)	(32)	(10)	(57)
Refund of Contributions	0	0	0	0	0	0
Disabled	0	0	0	0	0	0
Payments Reinstated/Ceased	0	0	0	(1)	0	(1)
Data Corrections	0	0	1	(2)	0	(1)
Plan Members as of May 1, 2023	115	8	1,262	457	219	2,061

Teachers

	Actives	Terminated Vested	Normal Retirees	Beneficiaries	Disabled Retirees	Totals
Plan Members as of May 1, 2022	229	229	4,383	409	205	5,455
New Plan Members	0	0	0	0	0	0
Rehires	4	(4)	0	0	0	0
Vested Terminations	(2)	2	0	0	0	0
Retirements	(33)	(14)	47	0	0	0
Deaths - Beneficiary	(1)	0	(23)	24	0	0
Deaths - No Beneficiary	(1)	0	(174)	(29)	(22)	(226)
Refund of Contributions	0	(1)	0	0	0	(1)
Disabled	0	0	0	0	0	0
Payments Reinstated/Ceased	0	0	0	(1)	0	(1)
Data Corrections	(1)	0	0	(1)	0	(2)
Plan Members as of May 1, 2023	195	212	4,233	402	183	5,225

Basis for the Valuation Plan Member Reconciliation

The following table shows a reconciliation of the number of plan members from the previous census date to the current census date.

Judges' Plan

	Actives	Terminated Vested	Normal Retirees	Beneficiaries	Disabled Retirees	Totals
Plan Members as of May 1, 2022	57	0	89	15	2	163
New Plan Members	7	0	0	0	0	7
Rehires	0	0	0	0	0	0
Vested Terminations	0	0	0	0	0	0
Retirements	(2)	0	2	0	0	0
Deaths - Beneficiary	0	0	(1)	1	0	0
Deaths - No Beneficiary	0	0	(3)	(1)	0	(4)
Refund of Contributions	(1)	0	0	0	0	(1)
Disabled	0	0	0	0	0	0
Payments Reinstated/Ceased	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0
Plan Members as of May 1, 2023	61	0	87	15	2	165

Basis for the Valuation

Age-Service Grid

Police Officers

Active Population																
Service	Under 20		20-24		25-29		30-34		35-39		40+		All Service			
Age Group	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.		
0 - 39	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -		
40 - 44	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
45 - 49	-	-	-	-	13	128,725	3	132,548	-	-	-	-	16	129,442		
50 - 54	-	-	-	-	37	143,555	16	146,491	-	-	-	-	53	144,441		
55 - 59	-	-	-	-	7	131,651	30	144,299	1	127,987	-	-	38	141,540		
60 - 64	-	-	-	-	1	161,936	7	131,857	4	134,986	1	127,987	13	134,836		
65 - 69	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
70+	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
All Ages	-	\$ -	-	\$ -	58	\$139,111	56	\$142,740	5	\$133,586	1	\$127,987	120	\$140,482		

Basis for the Valuation

Age-Service Grid

Firefighters

Active Population																
Service	Under 20		20-24		25-29		30-34		35-39		40+		All Service			
Age Group	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.		
0 - 39	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -		
40 - 44	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
45 - 49	-	-	-	-	4	132,123	13	135,589	-	-	-	-	17	134,773		
50 - 54	-	-	-	-	21	124,473	21	143,738	2	133,330	-	-	44	134,070		
55 - 59	-	-	-	-	21	120,501	13	157,062	3	173,103	-	-	37	137,612		
60 - 64	-	-	-	-	7	114,581	3	109,205	6	134,882	-	-	16	121,186		
65 - 69	-	-	-	-	-	-	-	-	1	106,798	-	-	1	106,798		
70+	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
All Ages	-	\$ -	-	\$ -	53	\$122,170	50	\$143,012	12	\$141,838	-	\$ -	115	\$133,284		

Basis for the Valuation

Age-Service Grid

Teachers

Active Population																
Service	Under 20		20-24		25-29		30-34		35-39		40+		All Service			
Age Group	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.		
0 - 39	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -		
40 - 44	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
45 - 49	-	-	-	-	2	135,590	-	-	-	-	-	-	2	135,590		
50 - 54	-	-	-	-	42	127,368	8	132,056	-	-	-	-	50	128,118		
55 - 59	-	-	-	-	21	128,685	28	131,913	12	127,248	-	-	61	129,884		
60 - 64	-	-	-	-	9	127,015	10	135,618	15	132,719	-	-	34	132,062		
65 - 69	-	-	-	-	4	151,828	13	133,407	9	127,877	7	131,113	33	133,645		
70+	-	-	-	-	2	127,499	3	126,872	8	130,677	2	131,003	15	129,535		
All Ages	-	\$ -	-	\$ -	80	\$129,106	62	\$132,598	44	\$129,865	9	\$131,088	195	\$130,479		

Basis for the Valuation

Age-Service Grid

Judges

Service	Active Population																			
	Under 1		1-4		5-9		10-14		15-19		20-24		25-29		30-34		35+		All Service	
Age Group	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.	No.	Avg. Comp.
0 - 34	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
35 - 39	-	-	1	246,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	246,600
40 - 44	1	232,600	6	237,267	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	236,600
45 - 49	3	232,600	3	232,600	1	232,600	-	-	-	-	-	-	-	-	-	-	-	-	7	232,600
50 - 54	2	239,600	3	232,600	1	232,600	5	235,400	1	232,600	-	-	-	-	-	-	-	-	12	234,933
55 - 59	1	232,600	2	232,600	1	232,600	4	232,600	1	232,600	-	-	-	-	-	-	-	-	9	232,600
60 - 64	-	-	-	-	4	232,600	5	238,200	1	232,600	6	235,017	1	233,100	-	-	-	-	17	235,129
65 - 69	-	-	-	-	-	-	2	232,600	2	232,600	1	232,600	-	-	-	-	-	-	5	232,600
70+	-	-	-	-	-	-	-	-	2	232,600	-	-	1	232,600	-	-	-	-	3	232,600
All Ages	7	\$234,600	15	\$235,400	7	\$232,600	16	\$235,225	7	\$232,600	7	\$234,671	2	\$232,850	-	-	-	-	61	\$234,452

Basis for the Valuation

Federal Allocation by Plan

Police Officers and Firefighters', and Teachers' Plans

Active Plan Members	Police Officers		Firefighters		Teachers	
Number	120		115		195	
Average Age	54.48		55.19		59.94	
Average Service	30.90		30.28		31.99	
Average Pay	\$	140,482	\$	133,284	\$	130,479

Inactive Plan Members	Police Officers		Firefighters		Teachers	
	100% Federal	Partial Federal	100% Federal	Partial Federal	100% Federal	Partial Federal
Normal Retirees - Current Federal Benefit						
Number	1,579	2,405	398	864	991	3,242
Average Age	78.34	62.57	81.77	63.74	88.01	76.04
Average Federal Benefit	\$ 65,032	\$ 39,407	\$ 78,226	\$ 44,526	\$ 55,454	\$ 37,951
Average Total Benefit	\$ 65,032	\$ 91,895	\$ 78,226	\$ 100,363	\$ 55,454	\$ 64,305
Normal Retirees - Deferred Federal Benefit						
Number	N/A	2	N/A	0	N/A	0
Average Age	N/A	51.08	N/A	N/A	N/A	N/A
Average Federal Benefit	N/A	\$ 10,506	N/A	N/A	N/A	N/A
Average Total Benefit	N/A	\$ 37,254	N/A	N/A	N/A	N/A
Beneficiaries - Current Federal Benefit¹						
Number	1,165	196	394	63	233	169
Average Age	78.83	59.93	81.76	61.53	84.54	75.24
Average Federal Benefit	\$ 39,406	\$ 27,754	\$ 40,179	\$ 28,549	\$ 27,138	\$ 15,964
Average Total Benefit	\$ 39,406	\$ 41,739	\$ 40,179	\$ 48,923	\$ 27,138	\$ 23,432
Disabled Retirees - Current Federal Benefit						
Number	447	193	158	53	108	68
Average Age	77.25	62.88	80.15	66.37	82.63	72.82
Average Federal Benefit	\$ 52,062	\$ 24,720	\$ 62,929	\$ 37,609	\$ 35,589	\$ 19,953
Average Total Benefit	\$ 52,062	\$ 52,304	\$ 62,929	\$ 60,455	\$ 35,589	\$ 43,842
Disabled Retirees - Deferred Federal Benefit						
Number	N/A	37	N/A	8	N/A	7
Average Age	N/A	53.33	N/A	53.31	N/A	58.68
Average Federal Benefit	N/A	\$ 8,697	N/A	\$ 9,026	N/A	\$ 5,506
Average Total Benefit	N/A	\$ 46,669	N/A	\$ 51,881	N/A	\$ 48,060
Terminated Vested - Deferred Federal Benefit						
Number	20	8	212			
Average Age	57.07	55.86	63.27			
Average Federal Benefit	\$ 14,344	\$ 12,974	\$ 5,860			

¹ Includes child beneficiaries.

Basis for the Valuation

Plan Member Counts

Judges' Plan

Active Plan Members	
Number	61
Average Age	56.51
Average Service	10.24
Average Pay	\$ 234,452
Number Eligible to Retire	26

Inactive Plan Members	
Normal Retirees	
Number	87
Average Age	77.08
Average Benefit	\$ 179,448
Spouse Beneficiaries	
Number	14
Average Age	85.74
Average Benefit	\$ 98,097
Disabled Retirees	
Number	2
Average Age	65.83
Average Benefit	\$ 140,710
Child Beneficiaries	
Number	1
Average Age	57.38
Average Benefit	\$ 9,048

Basis for the Valuation

Inactive Benefit Information

Inactive Police Officers - Current Benefits

Normal Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-49	-	-	7	1,200	73,325
50-54	-	-	264	16,607	93,442
55-59	-	-	730	24,331	90,410
60-64	1	6,420	626	32,891	89,113
65-69	33	51,531	387	53,536	92,792
70-74	366	57,361	272	75,768	96,246
75-79	675	65,094	104	88,842	99,107
80-84	321	70,246	15	97,569	109,614
85-89	150	71,106	-	-	-
90-94	27	76,411	-	-	-
95-100	6	128,094	-	-	-
100 and over	-	-	-	-	-
Total	1,579	\$ 65,032	2,405	\$ 39,407	\$ 91,895

Beneficiaries	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	4	\$ 48,429	21	\$ 3,907	\$ 13,845
35-39	-	-	1	1,908	4,932
40-44	1	36,684	1	1,812	4,956
45-59	-	-	1	16,860	44,028
50-54	6	31,676	22	17,382	42,859
55-59	9	33,763	22	22,904	41,236
60-64	43	42,889	37	25,503	43,927
65-69	93	37,230	39	36,560	48,774
70-74	206	38,556	31	37,860	46,631
75-79	280	39,574	18	44,157	49,288
80-84	235	39,025	2	35,688	40,854
85-89	179	40,403	1	41,568	44,088
90-94	66	41,016	-	-	-
95-100	37	39,741	-	-	-
100 and over	6	45,526	-	-	-
Total	1,165	\$ 39,406	196	\$ 27,754	\$ 41,739

Basis for the Valuation

Inactive Benefit Information

Inactive Police Officers - Current Benefits

Disabled Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-59	-	-	-	-	-
50-54	1	25,752	1	444	76,836
55-59	7	26,297	70	11,904	43,931
60-64	22	30,017	63	18,590	48,305
65-69	39	42,737	40	38,335	61,829
70-74	105	53,220	15	66,792	75,984
75-79	116	52,600	3	63,060	75,140
80-84	84	54,923	1	41,616	61,068
85-89	43	58,544	-	-	-
90-94	20	60,404	-	-	-
95-100	9	70,891	-	-	-
100 and over	1	67,896	-	-	-
Total	447	\$ 52,062	193	\$ 24,720	\$ 52,304

Inactive Police Officers - Deferred Benefits

Terminated Vested	Count	Average Federal Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-49	-	-
50-54	7	12,021
55-59	9	11,001
60-64	4	25,929
65-69	-	-
70-74	-	-
75-79	-	-
80-84	-	-
85-89	-	-
90-94	-	-
95-100	-	-
100 and over	-	-
Total	20	\$ 14,344

Basis for the Valuation

Inactive Benefit Information

Inactive Police Officers - Deferred Benefits

Normal Retirees	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	\$ -
35-39	-	-	-
40-44	-	-	-
45-59	1	6,408	46,932
50-54	1	14,604	27,576
55-59	-	-	-
60-64	-	-	-
65-69	-	-	-
70-74	-	-	-
75-79	-	-	-
80-84	-	-	-
85-89	-	-	-
90-94	-	-	-
95-100	-	-	-
100 and over	-	-	-
Total	2	\$ 10,506	\$ 37,254

Disabled Retirees	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	\$ -
35-39	-	-	-
40-44	-	-	-
45-59	1	4,416	44,868
50-54	33	8,813	46,216
55-59	3	8,856	52,244
60-64	-	-	-
65-69	-	-	-
70-74	-	-	-
75-79	-	-	-
80-84	-	-	-
85-89	-	-	-
90-94	-	-	-
95-100	-	-	-
100 and over	-	-	-
Total	37	\$ 8,697	\$ 46,669

Basis for the Valuation

Inactive Benefit Information

Inactive Firefighters - Current Benefits

Normal Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-49	-	-	-	-	-
50-54	-	-	106	18,263	96,028
55-59	-	-	161	20,496	94,305
60-64	-	-	227	33,551	95,496
65-69	1	53,388	214	52,888	100,869
70-74	32	59,195	103	79,651	107,744
75-79	122	72,817	45	112,013	129,886
80-84	149	82,096	8	132,000	143,163
85-89	68	82,646	-	-	-
90-94	25	95,436	-	-	-
95-100	1	64,596	-	-	-
100 and over	-	-	-	-	-
Total	398	\$ 78,226	864	\$ 44,526	\$ 100,363

Beneficiaries	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	5	\$ 21,778	\$ 54,958
35-39	-	-	2	14,466	32,196
40-44	-	-	1	1,416	5,004
45-59	1	34,968	-	-	-
50-54	-	-	6	12,836	70,416
55-59	2	34,014	7	16,848	39,050
60-64	8	33,218	9	21,619	44,287
65-69	18	36,733	13	34,163	48,460
70-74	39	37,958	12	40,484	52,566
75-79	83	39,051	7	43,221	49,185
80-84	116	39,361	1	37,356	38,472
85-89	67	40,344	-	-	-
90-94	39	43,867	-	-	-
95-100	19	51,438	-	-	-
100 and over	2	60,996	-	-	-
Total	394	\$ 40,179	63	\$ 28,549	\$ 48,923

Basis for the Valuation

Inactive Benefit Information

Inactive Firefighters - Current Benefits

Disabled Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-59	-	-	-	-	-
50-54	-	-	-	-	-
55-59	-	-	11	7,886	37,828
60-64	3	26,488	8	18,150	56,216
65-69	11	50,774	16	36,077	59,381
70-74	23	58,551	17	63,158	75,068
75-79	34	62,706	1	110,400	112,020
80-84	52	70,710	-	-	-
85-89	19	58,781	-	-	-
90-94	14	64,714	-	-	-
95-100	1	59,844	-	-	-
100 and over	1	66,564	-	-	-
Total	158	\$ 62,929	53	\$ 37,609	\$ 60,455

Inactive Firefighters - Deferred Benefits

Terminated Vested	Count	Average Federal Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-59	-	-
50-54	6	14,314
55-59	-	-
60-64	1	12,384
65-69	1	5,520
70-74	-	-
75-79	-	-
80-84	-	-
85-89	-	-
90-94	-	-
95-100	-	-
100 and over	-	-
Total	8	\$ 12,974

Basis for the Valuation

Inactive Benefit Information

Inactive Firefighters - Deferred Benefits

Disabled Retirees	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	\$ -
35-39	-	-	-
40-44	-	-	-
45-59	-	-	-
50-54	7	10,152	50,755
55-59	1	1,140	59,760
60-64	-	-	-
65-69	-	-	-
70-74	-	-	-
75-79	-	-	-
80-84	-	-	-
85-89	-	-	-
90-94	-	-	-
95-100	-	-	-
100 and over	-	-	-
Total	8	\$ 9,026	\$ 51,881

Basis for the Valuation

Inactive Benefit Information

Inactive Teachers - Current Benefits

Normal Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-49	-	-	-	-	-
50-54	-	-	2	5,394	55,260
55-59	-	-	33	15,332	72,908
60-64	1	7,008	138	16,040	65,470
65-69	3	21,288	361	22,529	64,688
70-74	10	13,117	755	32,939	65,497
75-79	74	34,697	1,098	43,317	64,717
80-84	211	56,683	634	46,782	63,079
85-89	332	60,390	190	44,523	57,944
90-94	243	55,904	27	51,967	66,149
95-100	88	54,219	4	54,921	69,393
100 and over	29	62,753	-	-	-
Total	991	\$ 55,454	3,242	\$ 37,951	\$ 64,305

Beneficiaries	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	2	\$ 3,516	\$ 9,180
35-39	-	-	-	-	-
40-44	1	12,612	-	-	-
45-59	-	-	2	9,048	19,290
50-54	3	9,860	-	-	-
55-59	2	6,486	2	9,264	17,154
60-64	4	15,705	12	9,401	22,236
65-69	3	29,828	17	14,063	23,030
70-74	9	25,131	40	15,928	25,210
75-79	35	25,365	44	18,436	24,777
80-84	55	26,573	32	16,073	21,141
85-89	49	30,417	10	19,280	24,895
90-94	53	28,358	6	17,568	23,390
95-100	15	26,379	2	20,772	23,028
100 and over	4	37,776	-	-	-
Total	233	\$ 27,138	169	\$ 15,964	\$ 23,432

Basis for the Valuation

Inactive Benefit Information

Inactive Teachers - Current Benefits

Disabled Retirees	100% Federal Count	100% Federal Average Benefit	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	-	\$ -	\$ -
35-39	-	-	-	-	-
40-44	-	-	-	-	-
45-59	-	-	-	-	-
50-54	-	-	-	-	-
55-59	-	-	-	-	-
60-64	4	28,134	6	12,402	46,366
65-69	3	27,332	14	14,080	43,564
70-74	4	35,586	21	21,110	44,278
75-79	29	34,837	24	22,405	42,776
80-84	26	33,759	3	34,752	45,572
85-89	24	37,257	-	-	-
90-94	13	37,410	-	-	-
95-100	3	42,884	-	-	-
100 and over	2	54,780	-	-	-
Total	108	\$ 35,589	68	\$ 19,953	\$ 43,842

Inactive Teachers - Deferred Benefits

Terminated Vested	Count	Average Federal Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-59	3	1,456
50-54	36	3,223
55-59	47	5,063
60-64	50	6,611
65-69	20	8,691
70-74	32	5,222
75-79	20	8,801
80-84	4	9,108
85-89	-	-
90-94	-	-
95-100	-	-
100 and over	-	-
Total	212	\$ 5,860

Basis for the Valuation

Inactive Benefit Information

Inactive Teachers - Deferred Benefits

Disabled Retirees	Partial Federal Count	Partial Federal Average Benefit	Partial Federal Average Total Benefit
Under 35	-	\$ -	\$ -
35-39	-	-	-
40-44	-	-	-
45-59	-	-	-
50-54	1	6,180	46,608
55-59	2	1,992	41,658
60-64	4	7,095	51,624
65-69	-	-	-
70-74	-	-	-
75-79	-	-	-
80-84	-	-	-
85-89	-	-	-
90-94	-	-	-
95-100	-	-	-
100 and over	-	-	-
Total	7	\$ 5,506	\$ 48,060

Basis for the Valuation

Inactive Benefit Information

Inactive Judges

Normal Retirees	Count	Average Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-49	-	-
50-54	-	-
55-59	2	92,048
60-64	2	176,246
65-69	10	183,505
70-74	21	176,272
75-79	28	180,711
80-84	11	186,575
85-89	8	199,042
90-94	4	173,850
95-100	1	138,689
100 and over	-	-
Total	87	\$ 179,448

Beneficiaries	Count	Average Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-59	-	-
50-54	-	-
55-59	1	9,048
60-64	-	-
65-69	-	-
70-74	-	-
75-79	3	123,135
80-84	3	90,575
85-89	5	91,374
90-94	2	85,211
95-100	1	104,932
100 and over	-	-
Total	15	\$ 92,160

Disabled Retirees	Count	Average Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-59	-	-
50-54	-	-
55-59	-	-
60-64	1	119,403
65-69	1	162,016
70-74	-	-
75-79	-	-
80-84	-	-
85-89	-	-
90-94	-	-
95-100	-	-
100 and over	-	-
Total	2	\$ 140,710

Terminated Vested	Count	Average Benefit
Under 35	-	\$ -
35-39	-	-
40-44	-	-
45-59	-	-
50-54	-	-
55-59	-	-
60-64	-	-
65-69	-	-
70-74	-	-
75-79	-	-
80-84	-	-
85-89	-	-
90-94	-	-
95-100	-	-
100 and over	-	-
Total	-	\$ -

APPENDIX A

Actuarial Assumptions and Methods

Methods

Liability Valuation Method

The funding method is the Individual Entry Age Normal Method for the Judges' Plan and Projected Unit Credit Method for the Police Officers and Firefighters' and Teachers' Plans. The individual entry age normal method allocates the actuarial present value of the projected benefits of each individual on a level basis over the service of the individual between participation age and projected exit age. The projected unit credit method recognizes the portion of the present value of the projected benefits earned as of the valuation date. Since there are no remaining participants earning new benefit accruals in the Police Officers and Firefighters' and Teachers' Plans, ODCP believes that it is prudent to accelerate the recognition of the benefit accruals, as opposed to deferring the value of benefits already earned.

Under the Entry Age Normal Method, the present value of future benefits is equal to the value of the projected benefit payable at retirement discounted back to the plan member's current age. Discounts include such items as interest and mortality. The difference between the present value of future benefits and the present value of future normal cost contributions represents the actuarial liability at the plan member's current age.

Under the Projected Unit Credit Method (Benefit Accrual Method), the accrued liability is determined by calculating a benefit based on service earned to the valuation date with compensation projected to the expected retirement date (or other event), then discounting those amounts to the valuation date. The actuarial accrued liability for participants currently receiving payments is calculated as the actuarial present value of future benefits expected to be paid.

For the purposes of determining the actuarial gains and losses during the year, liabilities as of October 1, 2023 for the Judges' Plan uses the prior year Effective Interest Rate. The liabilities for the Police Officers and Firefighters' and Teachers' Plans are based on 2023 spot rates implied by the 2022 spot rate yield curve. These spot rates used in gain/loss analysis were calculated by converting the 2022 spot rates to forward rates, removing the forward rate for FY 2023, and then converting the forward rates back to spot rates. See the table below for an example of the rates.

Fiscal Year	2022 Valuation Spot Rate Assumption	Forward Rate (rounded)	Implied 2023 Spot Rates used for (Gain)/Loss only
FY 2023	0.87%	0.87%	N/A
FY 2024	1.01%	1.15%	1.15%
FY 2025	1.20%	1.58%	1.37%
FY 2026	1.39%	1.96%	1.56%

Example: 1.56% adjusted FY 2026 spot rate = $(1.0115 \times 1.0158 \times 1.0196)^{(1/3)} - 1$

Asset Valuation Method

Net assets available for benefits, projected to September 30, 2023 without smoothing, is provided by ODCP and used for purposes of the valuation. When assets are subtracted from the actuarial liability the remainder represents the unfunded liability. Net assets available for benefits are the book value of total assets less non-pension liabilities. Total assets primarily consist of net investments in Treasury securities recorded at amortized cost.

Funding Method

For Judges, the normal cost under the individual entry age normal method is a level percentage of pay. The normal cost is calculated by discounting the value of all expected benefits to a participant's entry date and dividing by an increasing annuity reflecting anticipated salary increases from plan entry to expected exit ages. The normal cost to the Department of the Treasury is the full amount, less expected employee contributions. The funding method for the Police Officers and Firefighters' and Teachers' Plans is the projected unit credit method. No normal cost is payable for these participants as benefit service is frozen. For both methods, changes in actuarial assumptions, changes in plan provisions, and differences in actual experience compared to expected experience are reflected as part of the annual amount of gain or loss, which is a component of the total amortization of the Unfunded Accrued Liability.

APPENDIX A

Actuarial Assumptions and Methods

Methods

The prior amortization periods and payments are fixed from year to year. Because of this, the balances of prior amortization bases are recalculated each year to reflect changes in the underlying interest rates. New amortization payments due to (Gain)/Loss are recognized over a 10-year period, while those due to assumption changes are recognized over a period of 20 years.

For the Police Officers and Firefighters', and Teachers' Plans, the outstanding amortization bases are recalculated each year using the new spot rates. For the Judges' Plan, the outstanding amortization bases are recalculated each year at the new funding effective interest rate (EIR).

The asset (Gain)/Loss is determined using the same interest rates as the liability (Gain)/Loss.

Mortality Adjustment from Census Date to Valuation Date

The census data is adjusted from the date it is provided to the valuation date. A factor is applied to the liabilities calculated using the census data to account for the estimated inactives mortality between the census date and the valuation date.

Procedures

Financial and Census data were submitted by the Department of the Treasury. Information provided was reviewed for internal consistency and there is no reason to doubt its substantial accuracy.

No benefits of materiality were excluded from the valuation of the liabilities.

The Department of the Treasury provided us with data on actives who, as of the valuation date, had completed the plan's eligibility requirements.

Models

Actuarial Standard of Practice No. 56 – Modeling requires disclosure of certain information regarding the actuary's use of models when issuing actuarial reports for work performed on or after October 1, 2020. For this valuation, the liability calculations were determined using industry-leading defined benefit valuation software developed and maintained by a third-party vendor. The model was designed specifically for the measurement of defined benefit pension and postretirement medical plan liabilities and the actuary has updated the applicable parameters for the specific plan provisions and assumptions selected for this valuation. The discount rate was determined using a model that calculates a supportable weighted-average discount rate with inputs of the selected yield curve and projected plan cash flows.

Method Changes Since Last Year

None.

APPENDIX A

Actuarial Assumptions and Methods

Assumptions

Interest Rates	The June 30, 2023 rates (averaged over 40 quarters, as published by the Department of the Treasury) shown below were used for the current valuation. The Police Officers and Firefighters', and Teachers' Plans are measured using the full yield curve for the liability interest rate, while the Judges' Plan is measured using the equivalent Effective Interest Rate (EIR).							
	Duration	Return	Duration	Return	Duration	Return	Duration	Return
	0-1	1.30%	25-26	2.89%	50-51	3.13%	75-76	3.21%
	1-2	1.39%	26-27	2.90%	51-52	3.13%	76-77	3.22%
	2-3	1.55%	27-28	2.92%	52-53	3.14%	77-78	3.22%
	3-4	1.72%	28-29	2.93%	53-54	3.14%	78-79	3.22%
	4-5	1.86%	29-30	2.94%	54-55	3.15%	79-80	3.22%
	5-6	1.97%	30-31	2.96%	55-56	3.15%	80-81	3.22%
	6-7	2.06%	31-32	2.97%	56-57	3.16%	81-82	3.23%
	7-8	2.14%	32-33	2.98%	57-58	3.16%	82-83	3.23%
	8-9	2.20%	33-34	2.99%	58-59	3.16%	83-84	3.23%
	9-10	2.26%	34-35	3.01%	59-60	3.17%	84-85	3.23%
	10-11	2.32%	35-36	3.02%	60-61	3.17%	85-86	3.23%
	11-12	2.37%	36-37	3.03%	61-62	3.17%	86-87	3.24%
	12-13	2.43%	37-38	3.04%	62-63	3.18%	87-88	3.24%
	13-14	2.49%	38-39	3.05%	63-64	3.18%	88-89	3.24%
	14-15	2.54%	39-40	3.05%	64-65	3.18%	89-90	3.24%
	15-16	2.60%	40-41	3.06%	65-66	3.19%	90-91	3.24%
	16-17	2.64%	41-42	3.07%	66-67	3.19%	91-92	3.25%
	17-18	2.69%	42-43	3.08%	67-68	3.19%	92-93	3.25%
	18-19	2.73%	43-44	3.08%	68-69	3.20%	93-94	3.25%
	19-20	2.77%	44-45	3.09%	69-70	3.20%	94-95	3.25%
	20-21	2.80%	45-46	3.10%	70-71	3.20%	95-96	3.25%
	21-22	2.82%	46-47	3.11%	71-72	3.20%	96-97	3.25%
	22-23	2.84%	47-48	3.11%	72-73	3.21%	97-98	3.25%
	23-24	2.86%	48-49	3.12%	73-74	3.21%	98-99	3.26%
	24-25	2.87%	49-50	3.12%	74-75	3.21%	99-100	3.26%
	The Effective Interest Rates (single rate that produces the same results when applied to all cash flows) for all plans are as follows:							
		Police	Fire	Teachers	Judges			
	EIR	2.58%	2.57%	2.44%	2.74%			
Interest Rates for (Gain)/Loss	The same interest rates were used for purposes of rolling forward plan assets and rolling forward plan liabilities for determining gains and losses. For Judges, the 2022 EIR (2.61%) was used for this purpose. For Police, Fire and Teachers, the first spot rate from the 2022 spot rate curve (0.87%) was used for this purpose.							
Economic Assumptions		Police	Fire	Teachers	Judges			
	COLA ¹	2.63%	2.63%	2.60%	2.58%			
	Wage Inflation ²	2.75%	2.55%	2.10%	1.67%			
	¹ The Cost-of-Living Adjustment (COLA) assumption above does not apply to police officers and firefighters who retired prior to February 15, 1980, as they receive COLAs based on wage inflation.							
	² The wage inflation assumption for Fire was set to 3.50% in FY 2024 to reflect the most recent contract negotiation.							

APPENDIX A

Actuarial Assumptions and Methods

Assumptions

Salary Growth	The additional salary increases (on top of the general wage increases for all actives as shown in the above table) are shown below:				
	Years of Service	Police	Fire	Teachers	Judges
	20	8.00%	5.50%	2.00%	0.00%
	21	0.50%	1.50%	1.00%	0.00%
	22	0.50%	1.50%	1.00%	0.00%
	23	0.50%	1.50%	1.00%	0.00%
	24	0.50%	1.50%	1.00%	0.00%
	25	3.00%	4.40%	1.00%	0.00%
	26	0.50%	1.20%	1.00%	0.00%
	27	0.50%	1.20%	1.00%	0.00%
	28	0.50%	1.20%	1.00%	0.00%
	29	0.50%	1.20%	1.00%	0.00%
	30	3.00%	5.70%	0.60%	0.00%
	31+	0.25%	1.30%	0.60%	0.00%
		<p>Police officers receive longevity increases of 5% of step 1 pay in the officers' pay class after 15 years of service and additional increases of 5% of step 1 pay in the officers' pay class after 20, 25 and 30 years of service. Longevity pay is included in pensionable compensation once the member has 25 years of service. Police officers receive an additional increase of 5% of base pay for the Base Retention Differential after 5 years of service and 20 years of service.</p> <p>Firefighters are assumed to receive longevity increases of 5%, 10%, 15%, and 20% applied to base pay after 15, 20, 25, and 30 years of service, respectively, and are included in pensionable compensation for all years.</p>			
Active Plan Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Pub-2010 Public Safety Employee, Above-Median Income • Teachers: Pub-2010 Teacher Employee, Above-Median Income • Judges: Pub-2010 General Employee, Above-Median Income 				
Retired Plan Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Credibility Adjusted Pub-2010 Public Safety Healthy Retiree, Above-Median Income • Teachers: Credibility Adjusted Pub-2010 Teacher Healthy Retiree, Above-Median Income • Judges: Pub-2010 General Healthy Retiree, Above-Median Income 				

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Actuarial Assumptions and Methods

Assumptions

Beneficiary - Surviving Spouse Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Credibility Adjusted Pub-2010 Contingent Survivor, Above-Median Income • Teachers: Credibility Adjusted Pub-2010 Contingent Survivor, Above-Median Income • Judges: Pub-2010 General Contingent Survivor, Above-Median Income
Beneficiary - Non-Disabled Child Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Age 0-17, Pub-2010 Juvenile; Age 18+, Pub-2010 General Healthy Employee, Above-Median Income • Teachers: Age 0-17, Pub-2010 Juvenile; Age 18+, Pub-2010 General Healthy Employee, Above-Median Income
Disabled Plan Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Credibility Adjusted Pub-2010 Public Safety Disabled Retiree, Full Data Set • Teachers: Pub-2010 Teacher Disabled Retiree, Full Data Set • Judges: Pub-2010 General Disabled Retiree, Full Data Set
Beneficiary - Disabled Child Member Base Mortality	<ul style="list-style-type: none"> • Police Officers and Firefighters: Age 0-17, Pub-2010 Juvenile; Age 18+, Pub-2010 General Disabled Retiree, Full Data Set • Teachers: Age 0-17, Pub-2010 Juvenile; Age 18+, Pub-2010 General Disabled Retiree, Full Data Set
Longevity Improvement Projection Scale	<p>Mortality tables are adjusted using generational projection from 2010 using Scale MP-2021.</p>
Mortality Adjustment from Census Date to Valuation Date	<p>The liabilities are adjusted to account for mortality during the 5 month period between the census collection date of May 1, 2023 and the valuation date of October 1, 2023. The liabilities for inactive plan members in the Police Officers and Firefighters' Plan are decreased by 0.1441% per month (0.992795 factor applied). The liabilities for inactive plan members in the Teachers' Plan are decreased by 0.1808% per month (0.990960 factor applied). The liabilities for inactive plan members in the Judges' Plan are reduced by 0.1987% per month (0.990065 factor applied). The liabilities for active plan members are unadjusted.</p>

APPENDIX A

Actuarial Assumptions and Methods

Assumptions

Disability	<p>No disabilities are assumed among Judges.</p> <p>Below are sample rates of disability assumed to occur:</p> <table border="1"> <thead> <tr> <th>Age</th> <th>Police</th> <th>Fire</th> <th>Teachers</th> <th>Judges</th> </tr> </thead> <tbody> <tr><td>30-34</td><td>0.000%</td><td>0.000%</td><td>0.070%</td><td>0.000%</td></tr> <tr><td>35-39</td><td>0.000%</td><td>0.000%</td><td>0.120%</td><td>0.000%</td></tr> <tr><td>40-44</td><td>0.500%</td><td>0.500%</td><td>0.128%</td><td>0.000%</td></tr> <tr><td>45-49</td><td>0.150%</td><td>0.100%</td><td>0.208%</td><td>0.000%</td></tr> <tr><td>50-54</td><td>0.100%</td><td>0.100%</td><td>0.500%</td><td>0.000%</td></tr> <tr><td>55-59</td><td>0.000%</td><td>0.000%</td><td>0.800%</td><td>0.000%</td></tr> <tr><td>60-64</td><td>0.000%</td><td>0.000%</td><td>0.800%</td><td>0.000%</td></tr> <tr><td>65+</td><td>0.000%</td><td>0.000%</td><td>0.000%</td><td>0.000%</td></tr> </tbody> </table> <p>Note that the Federal portion of the disability benefits for police officers and firefighters is the same for service and non-service related disabilities. Therefore, an assumption on percentage of service related disabilities was not necessary. All incidents of disability were assumed to result in plan members being 100% disabled.</p>	Age	Police	Fire	Teachers	Judges	30-34	0.000%	0.000%	0.070%	0.000%	35-39	0.000%	0.000%	0.120%	0.000%	40-44	0.500%	0.500%	0.128%	0.000%	45-49	0.150%	0.100%	0.208%	0.000%	50-54	0.100%	0.100%	0.500%	0.000%	55-59	0.000%	0.000%	0.800%	0.000%	60-64	0.000%	0.000%	0.800%	0.000%	65+	0.000%	0.000%	0.000%	0.000%																																																																																													
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Retirement Age	<p>Retirement is assumed to occur in accordance with the table below:</p> <table border="1"> <thead> <tr> <th>Age</th> <th>Police-Male</th> <th>Police-Female</th> <th>Fire</th> <th>Teachers</th> <th>Judges</th> </tr> </thead> <tbody> <tr><td>50</td><td>55%</td><td>65%</td><td>55%</td><td>0%</td><td>0%</td></tr> <tr><td>51</td><td>30%</td><td>40%</td><td>30%</td><td>0%</td><td>0%</td></tr> <tr><td>52</td><td>30%</td><td>40%</td><td>30%</td><td>0%</td><td>0%</td></tr> <tr><td>53</td><td>30%</td><td>40%</td><td>30%</td><td>0%</td><td>0%</td></tr> <tr><td>54</td><td>30%</td><td>40%</td><td>30%</td><td>0%</td><td>0%</td></tr> <tr><td>55</td><td>30%</td><td>40%</td><td>30%</td><td>25%</td><td>0%</td></tr> <tr><td>56</td><td>30%</td><td>40%</td><td>30%</td><td>25%</td><td>0%</td></tr> <tr><td>57</td><td>30%</td><td>40%</td><td>30%</td><td>25%</td><td>0%</td></tr> <tr><td>58</td><td>30%</td><td>40%</td><td>30%</td><td>25%</td><td>10%</td></tr> <tr><td>59</td><td>30%</td><td>40%</td><td>40%</td><td>25%</td><td>10%</td></tr> <tr><td>60</td><td>100%</td><td>100%</td><td>100%</td><td>40%</td><td>10%</td></tr> <tr><td>61</td><td>100%</td><td>100%</td><td>100%</td><td>25%</td><td>10%</td></tr> <tr><td>62</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>63</td><td>100%</td><td>100%</td><td>100%</td><td>25%</td><td>10%</td></tr> <tr><td>64</td><td>100%</td><td>100%</td><td>100%</td><td>25%</td><td>10%</td></tr> <tr><td>65</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>66</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>67</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>68</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>69</td><td>100%</td><td>100%</td><td>100%</td><td>30%</td><td>10%</td></tr> <tr><td>70</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr><td>71+</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> </tbody> </table>	Age	Police-Male	Police-Female	Fire	Teachers	Judges	50	55%	65%	55%	0%	0%	51	30%	40%	30%	0%	0%	52	30%	40%	30%	0%	0%	53	30%	40%	30%	0%	0%	54	30%	40%	30%	0%	0%	55	30%	40%	30%	25%	0%	56	30%	40%	30%	25%	0%	57	30%	40%	30%	25%	0%	58	30%	40%	30%	25%	10%	59	30%	40%	40%	25%	10%	60	100%	100%	100%	40%	10%	61	100%	100%	100%	25%	10%	62	100%	100%	100%	30%	10%	63	100%	100%	100%	25%	10%	64	100%	100%	100%	25%	10%	65	100%	100%	100%	30%	10%	66	100%	100%	100%	30%	10%	67	100%	100%	100%	30%	10%	68	100%	100%	100%	30%	10%	69	100%	100%	100%	30%	10%	70	100%	100%	100%	100%	100%	71+	100%	100%	100%	100%	100%
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Return of Employee Contributions	<p>In valuing return of contribution benefits for employees assumed to die without a spouse or to terminate and elect a refund of their contribution balance, the employee contributions balance was estimated based on the actual employee contribution balance when available (provided as of the census date for the Judges' Plan and July 1, 1998 for the other plans), otherwise using estimated prior salaries. The actual contribution amount for Judges is used to project the hypothetical employee contribution refund due.</p>																																																																																																																																										

APPENDIX A

Actuarial Assumptions and Methods

Assumptions

Post Retirement Contributions	Retired Judges may elect to contribute 3.5% or 7.0% of their retirement benefit to provide a survivor benefit. The net amount of this benefit was included in benefit payments and projections, and the normal cost was not offset by these contributions.
Expenses	The 15-Year Fund projections for all plans use expense projections provided by the Department of the Treasury. The 15-Year Fund projections for the Judges' Plan assumes employee contribution increases at the same rate as pay for actives.
Spousal Age	<ul style="list-style-type: none"> • Police Officers and Firefighters and Teachers: Male spouses are assumed to be two years older than their female spouse when actual beneficiary data was unavailable. • Judges: Male spouses are assumed to be three years older than their female spouse when actual beneficiary data was unavailable.
Effective Form of Payment Election	<ul style="list-style-type: none"> • Police Officers and Firefighters: 70% of plan members are assumed to receive a Joint-and-57% Survivor Annuity, and 30% of plan members are assumed to receive a Single Life Annuity. Any additional survivor benefit for police officers and firefighters whose average pay was less than class 1, step 6 pay was not valued. • Teachers: 100% of active and terminated vested plan members were valued assuming benefits are payable as a Single Life Annuity. For retirees, 5% were assumed to elect a Joint-and-55% Survivor Annuity, 20% to elect a Joint-and-25% Survivor Annuity, and 75% to elect a Straight Life Annuity. • Judges: Judges who have elected survivor benefits are assumed to have a covered spouse with a Joint-and-55% Survivor Annuity. All others assumed to have a Single Life Annuity.
Open Group Projections for Judges	All active judges were assumed to be replaced upon termination from the plan. The replacement is based on a 50/50 blend of a new age 45 judge and a new age 55 judge, assuming 50% male and 50% female. The starting salary is assumed to be \$232,600 for all new entrants.
Data	This actuarial valuation has been prepared based upon plan member data provided by the Department of the Treasury. We have reviewed the data for reasonableness, but have not independently audited the data. We have no reason to believe the data is not complete and accurate, and know of no further information that is essential to the preparation of the actuarial valuation.

APPENDIX A

Actuarial Assumptions and Methods

Assumptions

Changes from Prior Report

Interest Rate

The interest rate assumption was changed to reflect average quarterly Treasury yield rates for the 10-year period ending on June 30, 2023. The June 30, 2022 rates (averaged over 40 quarters, as published by the Department of the Treasury) shown below were used for the prior valuation of the Police Officers and Firefighters', and Teachers' Plans. The prior year EIR for the Judges' Plan was 2.61%.

Duration	Return	Duration	Return	Duration	Return	Duration	Return
0-1	0.87%	25-26	2.82%	50-51	3.08%	75-76	3.17%
1-2	1.01%	26-27	2.84%	51-52	3.09%	76-77	3.17%
2-3	1.20%	27-28	2.86%	52-53	3.09%	77-78	3.18%
3-4	1.39%	28-29	2.88%	53-54	3.10%	78-79	3.18%
4-5	1.56%	29-30	2.89%	54-55	3.10%	79-80	3.18%
5-6	1.71%	30-31	2.91%	55-56	3.11%	80-81	3.18%
6-7	1.83%	31-32	2.92%	56-57	3.11%	81-82	3.18%
7-8	1.94%	32-33	2.93%	57-58	3.12%	82-83	3.19%
8-9	2.03%	33-34	2.95%	58-59	3.12%	83-84	3.19%
9-10	2.11%	34-35	2.96%	59-60	3.12%	84-85	3.19%
10-11	2.19%	35-36	2.97%	60-61	3.13%	85-86	3.19%
11-12	2.26%	36-37	2.98%	61-62	3.13%	86-87	3.19%
12-13	2.32%	37-38	2.99%	62-63	3.13%	87-88	3.20%
13-14	2.38%	38-39	3.00%	63-64	3.14%	88-89	3.20%
14-15	2.44%	39-40	3.01%	64-65	3.14%	89-90	3.20%
15-16	2.49%	40-41	3.02%	65-66	3.14%	90-91	3.20%
16-17	2.54%	41-42	3.02%	66-67	3.15%	91-92	3.20%
17-18	2.58%	42-43	3.03%	67-68	3.15%	92-93	3.20%
18-19	2.62%	43-44	3.04%	68-69	3.15%	93-94	3.21%
19-20	2.66%	44-45	3.05%	69-70	3.16%	94-95	3.21%
20-21	2.69%	45-46	3.05%	70-71	3.16%	95-96	3.21%
21-22	2.73%	46-47	3.06%	71-72	3.16%	96-97	3.21%
22-23	2.75%	47-48	3.07%	72-73	3.16%	97-98	3.21%
23-24	2.78%	48-49	3.07%	73-74	3.17%	98-99	3.21%
24-25	2.80%	49-50	3.08%	74-75	3.17%	99-100	3.21%

COLA/Wage Inflation

	Police	Fire	Teachers	Judges
	Prior Year			
COLA	2.15%	2.15%	2.14%	1.88%
Wage Inflation	2.15%	2.20%	2.30%	1.26%

APPENDIX B

Rationale Methods

Funding Method	<p>SFFAS 5 permits the use of a funding method other than the Aggregate Entry Age Normal method if an explanation is provided and the difference in results are immaterial.</p> <p>The Judges' Plan uses Individual Entry Age Normal method to develop the accrued liability and normal costs. The differences in results between Aggregate and Individual Entry Age Normal methods are very small and the Individual Entry Age Method provides more detail by individual for the movements in the liability.</p> <p>The Police Officers and Firefighters' and the Teachers' Plans use the Projected Unit Credit ("PUC") Method in place of the Entry Age Normal Method ("EAN"). Although the plans do not have future service accruals, the EAN method would defer a portion of past service into the future and thereby generating a normal cost until all actives have decremented. The PUC method better recognizes that all service has been fully accrued by participants, and attributes the anticipated change in compensation to that accrued service. This approach does not defer a portion of past service into the future, and therefore does not generate a normal cost. The PUC method aligns to the annual payment required for the plan under the Balanced Budget Act of 1997 (Pub. Law 105-33).</p>
Interest Rate Application	<p>To calculate the present value of plan members' benefits for the Police Officers and Firefighters', and Teachers' Plans, spot rates were used in accordance with SFFAS 5 and SFFAS 33. For the Judges' Plan, an Effective Interest Rate (EIR) was used. The EIR is the single interest rate calculated to provide the same present value of benefits as the spot rates and allows for the appropriate liability calculation using the Entry Age Normal Funding Method with an active population.</p>

APPENDIX B

Rationale Assumptions

Interest Rates and Economic Assumptions	The underlying interest rate, inflation, Cost-of-Living Adjustment (based on 10-year averages), and wage inflation assumptions (based on the 10-year average of actual negotiated pay increases) were prescribed by the Department of the Treasury, based on their analysis of investments and historical experience, and are intended to comply with SFFAS 5 and 33.
Interest Rates for (Gain)/Loss	The use of EIR for the Judges' Plan produced the same Present Value of Benefits as is produced using the yield curve. For an active plan, the EIR is used for the period of time between plan member entry and the valuation date. The EIR is a good proxy for long term discount rate because it captures the weighted cash flows of the yield curve as a single rate. The use of the first spot rate for the other plans reflects the most relevant expectation of the discount rate over the course of the prior year.
Salary Growth	The underlying salary growth assumptions are based upon expectations of plan experience and the most recent experience study conducted in 2019.
Base Mortality Table	The base mortality tables were adjusted to reflect actual plan experience during the most recent experience study conducted in 2019.
Longevity Improvement Projection Scale	The MP-2021 projection scale reflects the most recently developed mortality improvement outlook from the Society of Actuaries.
Mortality Adjustment from Census Date to Valuation Date	The adjustment to the liability to account for assumed mortality experience during the gap between the census collection date and the valuation date is based on the most recent experience study conducted in 2019.
Disability Rates	Rates of disablement for included actives are based upon expectations of plan experience and the most recent experience study conducted in 2019.
Withdrawal Rates	The withdrawal rate assumption was removed as part of the 2019 experience study due to the small number of active participants remaining in the plan.
Retirement Rates	Rates of retirement for included actives are based upon broad retirement patterns and expectations of plan experience and the most recent experience study conducted in 2019.
Expenses	The 15-Year Fund projections for all plans use expense projections provided by the Department of the Treasury. Due to the active nature of the Judges' Plan, employee contributions have a further increase factor to account for increases in pay rate for actives.

APPENDIX B

Rationale

Assumptions

Spousal Age	The marriage assumptions are based on expectations of plan experience and the most recent experience study conducted in 2019.
Effective Form of Payment Election	The benefit form election assumptions are based on expectations of plan experience and the most recent experience study conducted in 2019.
Open Group Projections	Open group projections presume there are no future actuarial gains or losses from assets or liabilities.
Benefits Not Valued	<p>The refund of unexpended employee contributions was not valued for the Police Officers and Firefighters' and the Teachers' Plans payable to retirees who died without eligible surviving beneficiaries. The Department of the Treasury is only responsible for the balance as of June 30, 1997 without interest; therefore, this liability, if any, was deemed immaterial.</p> <p>Survivor benefits for the Teachers' Plan are not valued for deferred benefits. The Teachers Plan provides a reduction for Joint-and-Survivor benefits; therefore, the actuarial value of the life annuity is similar to the actuarial value of the Joint-and-Survivor annuity. Surviving children's benefits for active plan members in the Police Officers and Firefighters' Plan are valued indirectly, by assuming a Joint-and-57% Survivor annuity for married plan members.</p> <p>For the Judges' Plan, plan members are due a refund of the portion of their employee contribution balance due to the coverage of a spouse in the event that their spouse predeceases them. This has not been valued to the complexity and low probability of occurrence.</p>

APPENDIX C

Plan Provisions Summary Police Officers and Firefighters' Plan

Plan Year	October 1 - September 30
Eligibility for Participation	All police officers and firefighters of the District of Columbia automatically become plan members on their date of employment. Police Cadets are not eligible.
Contributions	<p>Plan members hired before November 10, 1996 are required to contribute 7% of annual salary, including any differential for special assignment, but excluding overtime, longevity, holiday, or military pay. Plan members hired on or after November 10, 1996 contribute 8% of annual salary, including any differential for special assignment, but excluding overtime, holiday, or military pay. Interest is not credited to each plan member's accumulated contributions.</p> <p>Emerging inactive plan members not eligible for additional benefits will receive a refund of their contributions.</p>
Departmental Service	A plan member receives service for each full year and additional months of employment with either the Metropolitan Police Force or the D.C. Fire Department. Only service earned prior to July 1, 1997 is used to compute the plan benefits.
Credited Service	Service granted or purchased in addition to departmental service.
Final Average Annual Earnings	For those hired before February 15, 1980, basic pay for the highest 12 consecutive months. For those hired on or after February 15, 1980, basic pay for the highest 36 consecutive months divided by three.
Longevity Pay - Police Officers	<p>Plan members who complete 25 years of active service prior to retirement are entitled to have longevity pay included in pensionable compensation.</p> <p>Plan members hired before February 15, 1980, who complete 20 but less than 25 years of active service prior to retirement, are entitled to have longevity pay included in pensionable compensation (as this benefit adjustment was not included in June 30, 1997 plan provisions governing federal benefits, the District funds this benefit adjustment).</p>
Normal form of benefit	Straight Life Annuity (no eligible spouse survivor); Joint-and-Survivor Annuity (eligible spouse survivor)
Optional form of benefit	<p>Optional Additional Survivor Benefit:</p> <p>If elected by the plan member, the retiree benefit is reduced by 10% and the survivor is entitled to an additional survivor benefit equal to the amount of the benefit reduction; except the additional survivor benefit is reduced by 5% for each full five years the survivor is younger than the plan member, with this reduction not to exceed 40%.</p>

APPENDIX C

Plan Provisions Summary Police Officers and Firefighters' Plan

Cost-of-Living Adjustments	<p>Former employees (not beneficiaries) who retired prior to February 15, 1980, receive equalization, defined as a percentage increase in benefits equal to the percentage increase in pay active employees receive.</p> <p>All other retired plan members and their survivors receive an increase April 1 each year based on the annual change in the Consumer Price Index (All Urban Consumers) from December to December. The annual increase will not be less than 0% for any plan member, and is limited to a maximum of 3% for plan members hired on or after November 10, 1996.</p> <p>The cost-of-living adjustment for plan members disabled after June 30, 1997 and not eligible for an optional retirement benefit starts only with the payment of the Federal portion of the benefit at age 55.</p>
<u>Retirement Benefits</u>	
Optional Retirement Date	<p>For plan members hired before November 10, 1996:</p> <ul style="list-style-type: none"> • Age 60; or • Age 50 with 25 years of departmental service; or • No age requirement with 20 years of service (only if hired before February 15, 1980.) <p>For plan members hired on or after November 10, 1996:</p> <ul style="list-style-type: none"> • Age 60; or • No age requirement with 25 years of service.
Optional Retirement Benefit	<p>For plan members hired before November 10, 1996:</p> <ul style="list-style-type: none"> • 2.5% of Average Pay times departmental service up to 25 years (20 years if hired before February 15, 1980), plus • 3.0% of Average Pay times departmental service over 25 (or 20) years, plus • 2.5% of Average Pay times credited service. <p>For plan members hired on or after November 10, 1996:</p> <ul style="list-style-type: none"> • 2.5% of Average Pay times total service. <p>For all plan members, there is a maximum benefit of 80% of Average Pay. Service after June 30, 1997 is excluded from the calculation of the Federal portion of the benefit.</p>
Vesting	5 years of departmental service.
Deferred Vested Benefit	Optional Retirement Benefit beginning at age 55.

APPENDIX C

Plan Provisions Summary Police Officers and Firefighters' Plan

Disability Benefits	
Service-Related Disability Benefit Eligibility	Plan members who are disabled as a result of an illness or injury in the line of duty are eligible for this benefit. If disabled after June 30, 1997 and not eligible for an optional retirement benefit, the Federal portion of this benefit is payable beginning at age 55.
Service-Related Disability Benefit	<p>For plan members hired before February 15, 1980, 2.5% of Average Pay times total years of service, subject to a minimum benefit of 66-2/3% of Average Pay and subject to a maximum benefit of 70% of Average Pay.</p> <p>For plan members hired on or after February 15, 1980, 70% of final pay times percentage of disability, subject to a minimum benefit of 40% of final pay.</p> <p>The Federal portion of this benefit is a deferred vested benefit payable upon attainment of age 55, unless the conditions for optional retirement are met, in which case the Federal portion of this benefit is an optional retirement benefit. Service after June 30, 1997 is excluded from this calculation.</p>
Non-Service-Related Disability Benefit Eligibility	Eligible with 5 years of departmental service and a physical or mental disability that prevents the plan member from performing his/her job. If disabled after June 30, 1997 and not eligible for an optional retirement benefit, the Federal portion of this benefit is payable beginning at age 55.
Non-Service-Related Disability Benefit	<p>For plan members hired before February 15, 1980, 2.0% of Average Pay times total years of service, subject to a minimum benefit of 40% of Average Pay and subject to a maximum benefit of 70% of Average Pay.</p> <p>For plan members hired on or after February 15, 1980, 70% of Final Pay times percentage of disability, subject to a minimum benefit of 30% of Final Pay.</p> <p>The Federal portion of this benefit is a deferred vested benefit payable upon attainment of age 55, unless the conditions for optional retirement are met, in which case the Federal portion of this benefit is an optional retirement benefit. Service after June 30, 1997 is excluded from this calculation.</p>

APPENDIX C

Plan Provisions Summary Police Officers and Firefighters' Plan

Death Benefits	
Lump Sum Death Benefit	Lump sum of \$50,000 payable for death occurring in the line of duty, provided the death is not the result of willful misconduct or by intention to bring about his/her own death.
Survivor Benefit (Spouse Only) - Death Outside Line of Duty after 12/29/93	Eligible upon death and, if retired, married for at least one year or have a child by the marriage. The benefit will be 40% of the greater of Average Pay and the salary for class 1, step 6 of the D.C. Police and Firemen's Salary Act in effect at the date of death, adjusted for cost-of-living increases if death occurs after retirement. The benefit cannot exceed the rate of pay for the position occupied at death (or retirement if death occurs after retirement.)
Survivor Benefit (Spouse Only) - Death In Line of Duty after 12/29/93	Eligible upon death in the line of duty. The benefit will be 100% of final pay. The Federal portion of this benefit is 40% of average pay per June 30, 1997 plan provisions.
Survivor Benefit - Spouse and Dependent Children	<p>Eligibility for the spouse is the same as Spouse Only benefit; for the children, unmarried and under 18 (22 if full-time student), or any child dependent because of a disability incurred before age 18.</p> <p>Spouse benefit as described above, plus, provided death does not occur in the line of duty, a benefit per child (payable until the children are no longer eligible) equal to the smallest of:</p> <ul style="list-style-type: none"> • 60% of Average Pay divided by the number of eligible children; • \$5,028 (\$4,572 if hired on or after November 1, 1996) - Federal portion is \$1,548; <p>or</p> <ul style="list-style-type: none"> • \$15,084 (\$13,716 if hired on or after November 1, 1996) divided by the number of children - Federal portion is \$4,644. <p>These amounts are increased annually based on cost-of-living adjustments.</p>
Survivor Benefit - Dependent Children Only	Eligibility is same as the Dependent Children benefit above. The benefit will be 75% of Average Pay divided by the number of eligible children, adjusted for cost-of-living increases.
Refund of Contributions	Refund contributions if death before retirement and no eligible spouse or children. All plan member contributions will be refunded to a named, or statutorily-designated if none named, beneficiary.
Changes Since Prior Valuation	None of which we are aware.

APPENDIX C

Plan Provisions Summary

Teachers' Plan

Plan Year	October 1 - September 30
Eligibility for Participation	Permanent, temporary, and probationary teachers for the District of Columbia public day schools become plan members automatically on their date of employment. Other employees covered by the Retirement of Public School Teachers Act – including librarians, principals, and counselors – also become plan members on their date of employment. Substitute teachers and employees of the Department of School Attendance and Work Permits are not covered. Some former D.C. teachers working at charter schools are eligible to remain in the Plan.
Contributions	Plan members hired before November 1, 1996 are required to contribute 7% of annual pay. Plan members hired on or after November 1, 1996 contribute 8% of annual pay. Emerging inactive plan members not eligible for additional benefits will receive a refund of their contributions without interest.
School Service	One year of school service is granted for each year of employment with the D.C. public day schools.
Credited Service	Service granted or purchased in addition to school service.
Final Average Annual Earnings	Highest 36 consecutive months of pay, divided by three.
Optional forms of benefit	<p><u>Reduced Annuity with a Maximum Survivor Annuity (to Spouse)</u> The original benefit is reduced by 2.5% of annual pension up to \$3,600, plus 10% of any amount over \$3,600. Spouse will receive 55% of Unreduced Annuity.</p> <p><u>Reduced Annuity with a Partial Survivor Annuity (to Spouse)</u> An annuity with a benefit payable to the spouse of between \$1 up to any amount less than 55% of the Unreduced Annuity. The original benefit is reduced by dividing the amount of the survivor's annuity by 55%, then reducing the original benefit by 2.5% of this amount up to \$3,600, plus 10% of any amount over \$3,600.</p> <p><u>Reduced Annuity with a Survivor Annuity to a Person with an Insurable Interest</u> A joint and 55% survivor annuity with the original benefit reduced 10% plus an additional 5% for each full 5 years, up to 25 years, the survivor is younger, with a total reduction of 40% for any survivor who is 25 or more years younger.</p> <p><u>Reduced Annuity with a Life Insurance Benefit</u> Benefits are reduced to provide a lump sum life insurance benefit to a designated beneficiary.</p>

APPENDIX C

Plan Provisions Summary

Teachers' Plan

Cost-of-Living Adjustments	All plan members receive an increase on April 1 each year based on the annual change in the Consumer Price Index (all items – U.S. City average) from December to December. The annual increase will not be less than 0% for any plan member, and is limited to 3.0% for plan members hired on or after November 1, 1996. The cost-of-living adjustment for plan members who become disabled after June 30, 1997 starts only with the payment of the federal portion of the benefit at age 62.
<u>Retirement Benefits</u>	
Voluntary Retirement Date	<p>For plan member hired before November 1, 1996, earliest of:</p> <ul style="list-style-type: none"> • Age 62 with 5 years of school service; • Age 60 with 20 years of total service, including 5 years of school service; • Age 55 with 30 years of total service, including 5 years of school service. <p>For plan member hired on or after November 1, 1996, earliest of:</p> <ul style="list-style-type: none"> • Age 62 with 5 years of school service; • Age 60 with 20 years of total service, including 5 years of school service; • Any age with 30 years of total service, including 5 years of school service.
Voluntary Retirement Benefit	<p>For plan member hired before November 1, 1996:</p> <ul style="list-style-type: none"> • 1.5% of Average Pay times service up to 5 years, plus; • 1.75% of Average Pay times service between 5 and 10 years, plus • 2.0% of Average Pay times service over 10 years. <p>For plan member hired on or after November 1, 1996:</p> <ul style="list-style-type: none"> • 2.0% of Average Pay times service. <p>For all plan members, there is a minimum benefit of 1.0% of Average Pay plus \$25 for each year of service.</p> <p>Service after June 30, 1997 is excluded from the calculation of the Federal portion of the benefit.</p>
Involuntary Retirement Date	<p>Retired involuntarily for reasons other than misconduct or delinquency with:</p> <ul style="list-style-type: none"> • 25 years of total service, including 5 years of school service; or • Age 50 with 20 years of total service, including 5 years of school service.
Involuntary Retirement Amount	Voluntary Retirement Benefit is reduced by 1/6% per month (2% per year) for each full month that the date of retirement precedes age 55.
Vesting	5 years of school service.
Deferred Vested Benefit	The benefit amount is calculated as a Voluntary Retirement Benefit beginning at age 62, based on service earned as of the termination of employment.

APPENDIX C

Plan Provisions Summary

Teachers' Plan

Disability Benefits	
Disability Benefit Eligibility	5 years of school service and a physical or mental disability that prevents the plan member from performing the job.
Disability Benefit	Voluntary Retirement benefit, subject to a minimum of the lesser of 40% of Average Pay and the benefit that the plan member would receive, projecting service to age 60. If disabled after June 30, 1997 and not eligible for voluntary retirement, the Federal portion of this benefit is a deferred vested benefit payable upon attainment of age 62. Service after June 30, 1997 is excluded from this calculation.
Death Benefits	
Lump Sum Death Benefit - No Survivor	Teachers who die before retirement and before completing 18 months of school service or who die without an eligible spouse, child, or parent, will receive a lump sum death benefit. The benefit will be a refund of plan member contributions without interest.
Survivor Benefit - Spouse Only	Teachers who die before retirement and were married for at least two years or have a child by the marriage will provide their survivors a benefit. The benefit will be 55% of the Voluntary Retirement benefit subject to minimums.
Survivor Benefit - Spouse and Dependent Children	<p>Eligibility for the spouse is the same as Spouse Only benefit; for the children, unmarried and under 18 (22 if a full-time student); or any child dependent because of a disability incurred before age 18. Death does not have to occur before retirement for the children's benefits. The benefit will be:</p> <p>Spouse benefit as described above, plus a benefit per child (payable until the children are no longer eligible) equal to the smallest of:</p> <ul style="list-style-type: none"> • 60% of Average Pay divided by the number of eligible children; • \$8,580 (if hired before January 1, 1980), \$8,268 (if hired between January 1, 1980 and October 31, 1996), or \$7,476 (if hired on or after November 1, 1996) per child; or • \$25,740 (if hired before January 1, 1980), \$24,804 (if hired between January 1, 1980 and October 31, 1996), or \$22,428 (if hired on or after November 1, 1996) divided by the number of children. <p>These amounts are increased annually based on cost-of-living adjustments.</p>

APPENDIX C

Plan Provisions Summary

Teachers' Plan

Survivor Benefit - Dependent Children Only	Eligibility is the same as for the children's benefit when there is a surviving spouse. Benefit Amount Per child (payable until the children are no longer eligible), the smallest of: <ul style="list-style-type: none">• 75% of Average Pay divided by the number of eligible children;• \$10,500 (if hired before January 1, 1980), \$10,092 (if hired between January 1, 1980 and October 31, 1996), or \$9,048 (if hired on or after November 1, 1996) per child; or• \$31,500 (if hired before January 1, 1980), \$30,276 (if hired between January 1, 1980 and October 31, 1996), or \$27,144 (if hired on or after November 1, 1996) divided by the number of children. These amounts are increased annually based on cost-of-living adjustments.
Survivor Benefit - Surviving Parents Only	Eligible if death before retirement and no eligible spouse or children, and parents receive at least one-half of their total income from the plan member. The benefit will be the same as the Surviving Spouse benefit.
Changes Since Prior Valuation	None of which we are aware.

APPENDIX C

Plan Provisions Summary

Judges' Plan

Plan Year	October 1 - September 30
Eligibility for Participation	All Judges of the District of Columbia Court of Appeals or the Superior Court are members in the plan. The Executive Officer of the Court System is also eligible.
Contributions	<p>All Judges contribute 3.5% of their salaries to the Fund. Judges electing survivor coverage pay an additional 3.5% of annual salary (or retirement benefit if retired). Plan member contributions for survivor coverage do not end at retirement.</p> <p>Emerging inactive plan members not eligible for additional benefits will receive a refund of their contributions without interest.</p>
Judicial Service	A plan member receives credit for each full year and additional months of employment as a Judge with the District of Columbia Courts.
Credited Service	Service granted or purchased in addition to judicial service.
Cost-of-Living Adjustments	All pensioners will receive cost-of-living increases in line with those applicable to retirees in the Civil Service Retirement System. Cost-of-living adjustments are paid on January 1.
<u>Retirement Benefits</u>	
Regular Retirement Date	<p>Earlier of:</p> <ul style="list-style-type: none"> • Age 50 with 20 years of Judicial Service; or • Age 60 with 10 years of Judicial Service.
Regular Retirement Benefit	<p>Basic salary at retirement times the ratio of Judicial Service to 30, plus An additional benefit for any Credited Service (non Judicial) as follows:</p> <ul style="list-style-type: none"> • 1.50% of basic salary times Credited Service up to 5 years, plus • 1.75% of basic salary times Credited Service from 5 to 10 years, plus • 2.00% of basic salary times Credited Service in excess of 10 years. <p>The maximum total benefit is 80% of basic salary.</p>
Vesting	10 years of Judicial Service.

APPENDIX C

Plan Provisions Summary

Judges' Plan

Mandatory Retirement Date	Mandatory retirement is at age 74.
Early Retirement Eligibility	Age 55 with 10 years of Judicial Service.
Early Retirement Benefit	1/12% per month prior to age 60 reduction in Judicial Service benefit.
Deferred Vested Benefit	The deferred vested benefit is the same as the Early Retirement Benefit beginning at age 55 or the Regular Retirement Benefit beginning at age 60, but only reflecting service to the date of employment termination.
Disability Benefits	
Disability Benefit Eligibility	A plan member is eligible for disability retirement after 5 years of Judicial and Credited Service and becoming physically or mentally disabled to an extent that interferes with proper performance of judicial duties. No service requirement applies to involuntary disability retirement.
Disability Benefit	Regular Retirement Benefit, subject to a minimum of 50% of basic salary (if an involuntary disability retirement).
Death Benefits	
Survivor Benefit Eligibility	Judges who contribute an additional 3.5% of salary during their working career and during retirement will provide a survivor benefit to their surviving spouse and/or children. The judge must also have completed at least 5 years of Judicial and Credited Service, and have been married for 2 years or have a child by marriage. A refund of excess contributions, less benefits paid to the retiree, will be paid if there are no eligible survivors.
Survivor Benefit	<p>Spouse Benefit: If judge was retired, 55% of the benefit the judge was receiving. If judge was active, 55% of the benefit the judge would have received had the judge retired on the day prior to death, not less than 55% of the benefit that would be provided to a judge with 15 years of Judicial Service without adjustment for early retirement.</p> <p>Dependent Children Benefit: A benefit will be paid to the children under the age of 18 (22 if full time student), or to any unmarried child incapable of self-support due to a disability which occurred before age 18. Benefit per child is the smallest of:</p> <ul style="list-style-type: none"> • 50% of the spouse's annuity • \$7,538.64 (\$9,048.00 if no spouse benefits apply) as of 12/01/2022, increased annually • \$22,615.92 (\$27,144.00 if no spouse benefits apply) divided by the number of children as of 12/01/2022, increased annually.
Changes Since Prior Valuation	None of which we are aware.