The Police and Fire Retirement System of the City of Detroit

Annual Actuarial Valuation of Component II (Legacy)

June 30, 2025



800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

January 14, 2026

Board of Trustees
The Police and Fire Retirement System
of the City of Detroit

Dear Board Members:

This report provides key results of the **Annual Actuarial Valuation** of the annuity and pension liabilities of the Police and Fire Retirement System of the City of Detroit – Component II (Legacy) benefits. The date of the valuation was **June 30, 2025.**

In very general terms, Component II provides benefits for service rendered prior to July 1, 2014. The results provided herein relate solely to the Component II benefits. Benefits provided under Component I are the subject of a separate report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation is to measure the funding progress and to calculate the fiscal year 2027 Actuarially Determined Employer Contribution (ADEC) of Component II. The Component II ADEC shown on page 3 assumes payments will be received on a quarterly basis during the 2027 fiscal year. If the City is unable to make the quarterly contribution in any given quarter, we recommend a catch-up contribution equal to 25% of what the ADEC would have been if the entire employer contribution was expected to be received at the end of the 2027 fiscal year. See Comments and Recommendations for more information.

This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different. In particular, the information provided in this report is not suitable for financial reporting in connection with GASB Statement No. 67. Such information is provided in a separate report. Information regarding potential benefit restoration as allowed for in the POA will also be provided in a separate report, at the Board's request.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

The ADEC shown in this report are determined using the actuarial assumptions and methods disclosed in Appendix I of this report. Users of this report should be aware that contributing the amounts shown does not guarantee benefit security. This report includes risk metrics but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed. Given the funded level of this plan, plan sponsor contributions are critical.

This valuation was based upon records maintained and furnished by the Retirement System staff concerning active members, retirees and beneficiaries, and financial accounts as of the valuation date. Data was checked for year-to-year consistency, but was not audited by the actuary. We are not responsible for the completeness or accuracy of the data.

The assumptions used in the valuations concerning future experience are summarized in Appendix I of this report. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions is expected to have no significant bias (i.e., not significantly optimistic or pessimistic). All actuarial assumptions and methods used in the valuation follow the guidance in the applicable Actuarial Standards of Practice.

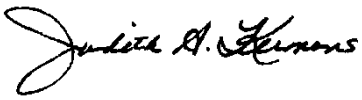
This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Component II Plan of the Police and Fire Retirement System of the City of Detroit as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.



Judith A. Kermans, James R. Sparks and Kevin Noelke are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The actuaries signing the report are independent of the plan sponsor.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Judith A. Kermans, EA, FCA, MAAA



James R. Sparks, ASA, FCA, MAAA



Kevin Noelke, ASA, FCA, MAAA

JAK/JRS/KN:ah

Table of Contents

Page

Valuation Results

Executive Summary....1
Valuation Results....2-6
Valuation Results – Comparative Statement....7
Schedule of Funding Progress....8
Liabilities Related to Restoration and the Restoration Reserve Account....9
Comments and Recommendations....10-12
Risk Measures....13-16
Low-Default-Risk Obligation Measure....17-18
Other Observations....19

Data Furnished for Valuation and Derivation of Funding Value of Assets

Summary of Benefit Provisions....20-22
Reported Assets....23-24
Funding Value of Assets....25
Member Data Included in the Valuation....26-37
Schedule of Employer Contributions....38

Appendix I Assumptions and Glossary

Methods and Assumptions....39-46
Glossary....47-50

Appendix II Funding Policy

Funding Policy....51-55
Glossary....56

VALUATION RESULTS

Executive Summary

Valuation Date	June 30, 2025	June 30, 2024
Contributions For Fiscal Year Ending	June 30, 2027	June 30, 2026
Remaining Amortization Years *(Closed Level Principal Amortization)*	27	28
Actuarially Determined Employer Contribution* *(To Be Paid in Quarterly Installments)*	$ 80,570,618	$ 89,068,579
Membership		
Number of:		
Active Members	998	1,096
DROP Members	508	562
Retirees and Beneficiaries	7,586	7,647
Inactive, Nonretired Members	360	379
Total	9,452	9,684
Assets		
Funding Value of Assets (FVA)	$ 2,264,030,204	$ 2,273,507,700
Market Value of Assets (MVA)	$ 2,340,553,664	$ 2,319,327,994
Return on Funding Value of Assets	9.13 %	7.83 %
Return on Market Value of Assets	10.35 %	9.85 %
Actuarial Information (FVA) Basis		
Actuarial Accrued Liability (AAL)	**$ 3,065,364,275**	**$ 3,161,254,822**
Unfunded Actuarial Accrued Liability: (AAL) - (FVA)	**$ 801,334,071**	**$ 887,747,122**
Funded Ratio: (FVA) / (AAL)	**73.86 %**	**71.92 %**
Actuarial Information (MVA) Basis		
Actuarial Accrued Liability (AAL)	$ 3,065,364,275	$ 3,161,254,822
Unfunded Actuarial Accrued Liability: (AAL) - (MVA)	$ 724,810,611	$ 841,926,828
Funded Ratio: (MVA) / (AAL)	76.35 %	73.37 %

** Contributions for the fiscal year ending June 30, 2027 are assumed to be paid into the Retirement System quarterly (i.e., ¼ on September 30, 2026; ¼ on December 31, 2026; ¼ on March 31, 2027; and ¼ on June 30, 2027).*

Note: The AAL excludes restoration and assets include the entire balance of the Restoration Reserve Account, if any.

Valuation Results

Detailed Breakdown of Liabilities, Assets and Unfunded

	June 30, 2025	June 30, 2024
Actuarial Accrued Liabilities		
Attributable to Annuity Reserve Fund (ARF)		
Future annuity liability	$ 2,728,884	$ 2,899,691
Reserve for outstanding refunds & contingencies	26,742,798	26,867,754
ARF Total	$ 29,471,682	$ 29,767,445
Retirees and beneficiaries*	2,656,058,988	2,709,553,295
DROP	179,803,024	198,678,969
Inactive members future deferred pensions	45,504,835	51,478,229
Active members (non-DROP)	154,525,746	171,776,884
Total Actuarial Accrued Liabilities	$ 3,065,364,275	$ 3,161,254,822
Totals - Funding Value of Assets (FVA) Basis		
Actuarial Accrued Liabilities (AAL)	**$ 3,065,364,275**	**$ 3,161,254,822**
Funding Value of Assets (FVA)	**2,264,030,204**	**2,273,507,700**
Unfunded Actuarial Accrued Liabilities (UAAL)	**$ 801,334,071**	**$ 887,747,122**
Funded Ratio	**73.9%**	**71.9%**
Totals - Market Value of Assets (MVA) Basis		
Actuarial Accrued Liabilities (AAL)	$ 3,065,364,275	$ 3,161,254,822
Market Value of Assets (MVA)	2,340,553,664	2,319,327,994
Unfunded Actuarial Accrued Liabilities (UAAL)	$ 724,810,611	$ 841,926,828
Funded Ratio	76.4%	73.4%

** Includes liabilities attributable to Annuity Savings Fund (ASF) balances of all non-active members (i.e., retirees and beneficiaries, DROP and inactive members).*

Note: The AAL excludes restoration and assets include the entire balance of the Restoration Reserve Account, if any.

Valuation Results

Determination of FY 2027 Actuarially Determined Employer Contribution

The Funding Policy adopted by the Board and Investment Committee is included in the appendix. Subsequent to the adoption of the Board's Funding Policy, it was ordered by the bankruptcy court that the Unfunded Actuarial Accrued Liabilities existing as of June 30, 2023 be amortized over 30 years. Beginning with the 2024 fiscal year, a closed 30-year level principal amortization has been used for determining the contribution dollar amount. Beginning with the 2025 fiscal year, the contribution dollar amount is to be contributed in quarterly installments paid on the last day of each quarter to the Retirement System.

Development of FY 2027 Contributions

As of June 30, 2025:	
Actuarial Accrued Liability	$ 3,065,364,275
Funding Value of Assets (FVA)	2,264,030,204
Unfunded Actuarial Accrued Liability (UAAL)	$ 801,334,071
During Fiscal Year 2026:	
Assumed Contribution[1]	(89,068,579)
Assumed Administrative Expenses	2,410,070
Interest at 6.75%	51,946,191
Projected UAAL as of June 30, 2026	$ 766,621,753
Remaining Amortization Years *(Closed Level Principal Amortization)*	27
UAAL Contribution	$ 78,188,160
Administrative Expense Contribution	2,382,458
Actuarially Determined Employer Contribution[2]	**$ 80,570,618**

[1]Contributions are assumed to be made in equal quarterly installments on the last day of each quarter during the fiscal year.
[2]Total employer contributions, including amounts paid by employer but funded from other sources under the POA, if any.

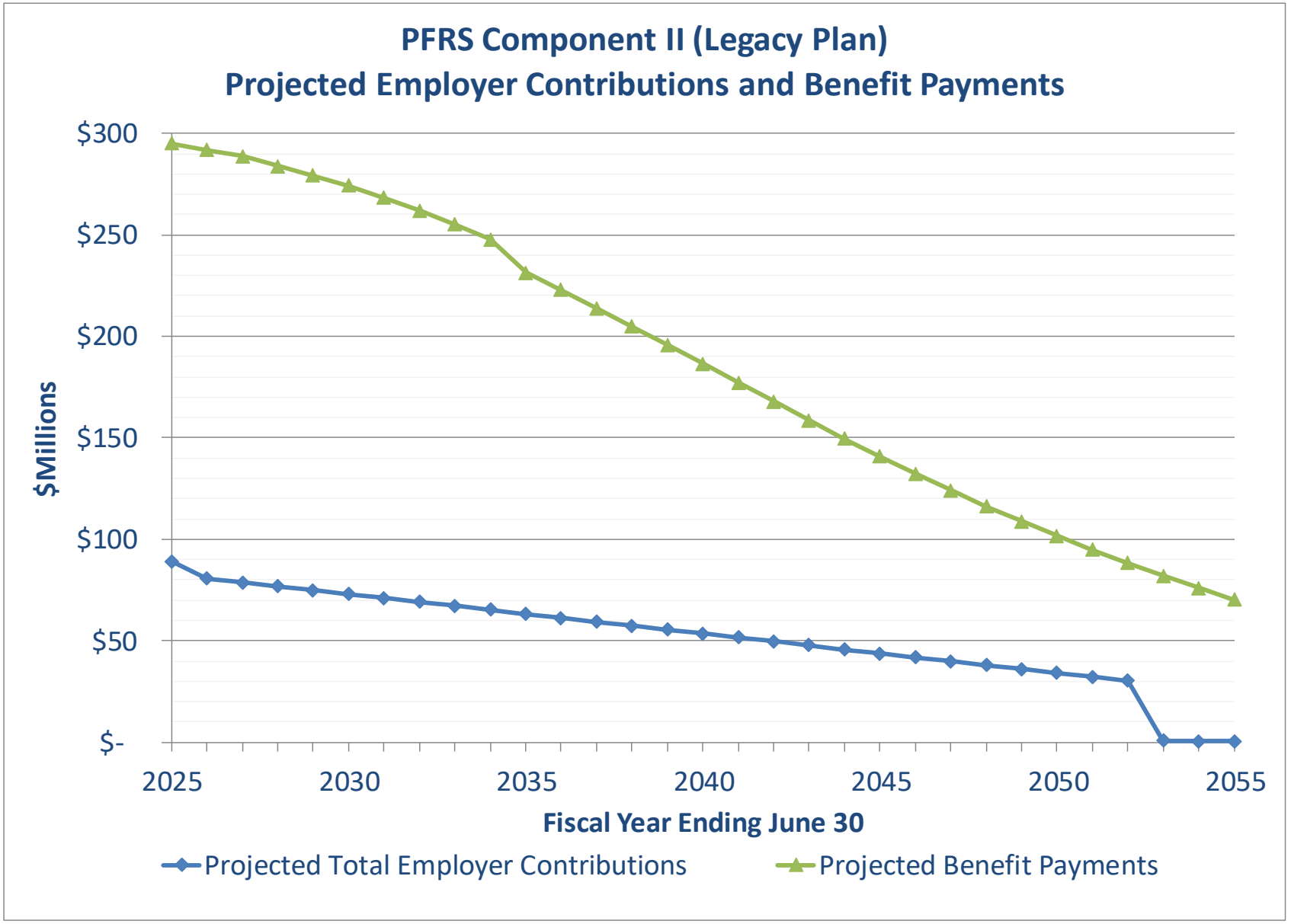
If the Board is unable to make the quarterly contribution in any given quarter, we recommend a catch-up contribution equal to 25% of the full end of year amount (see Comments and Recommendations for more information).

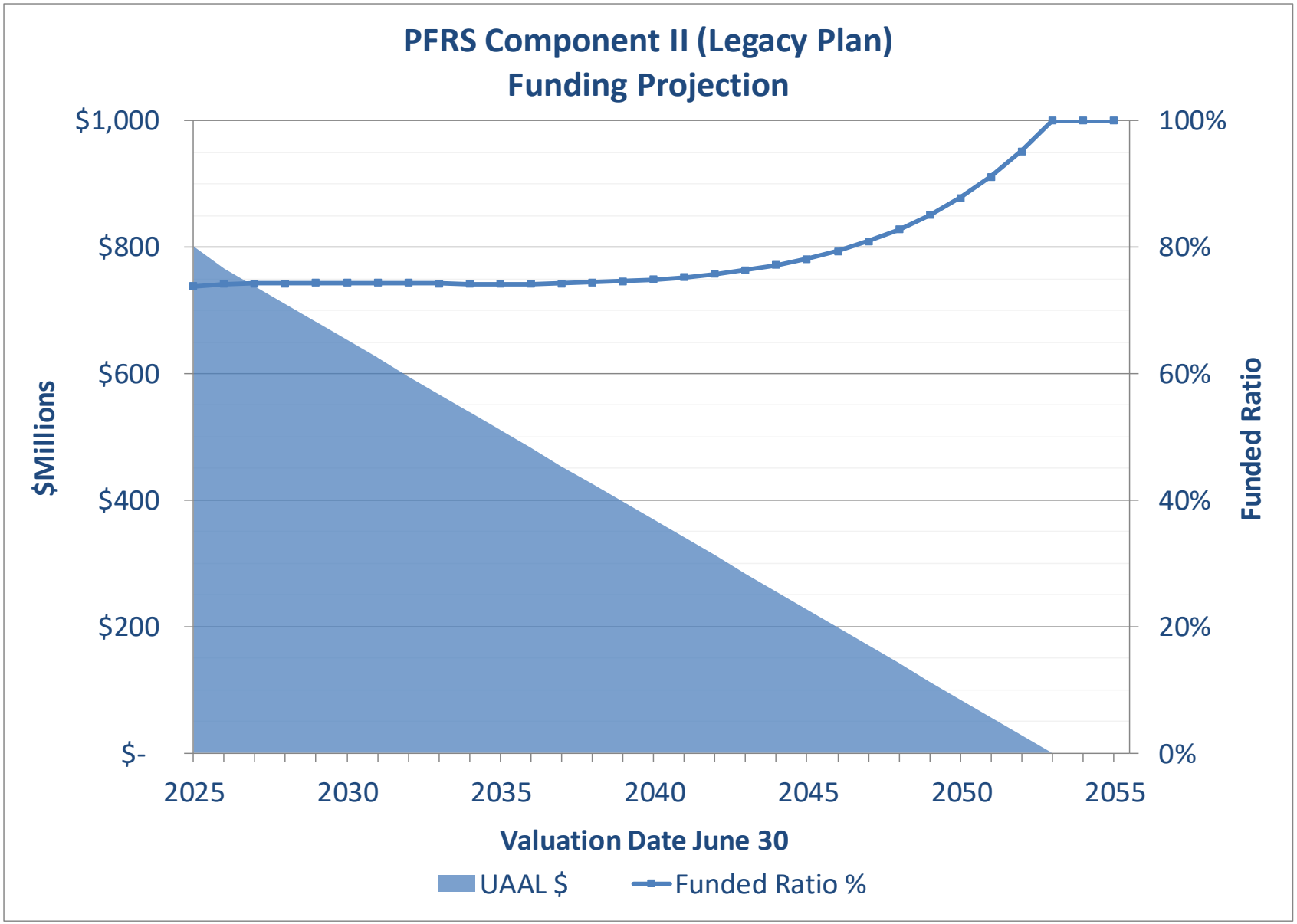
Valuation Results

Projections of Employer Contributions, Benefits and Funded Status

The charts that follow show a projection of the employer contributions, benefit payments and funded status using the Funding Value of Assets (FVA) and a closed 30-year (27 years as of the June 30, 2025 valuation) level principal amortization period. All actuarial assumptions are assumed to be met exactly each year in the projection (i.e., no future gains or losses). Employer contributions are equal to only the administrative expenses after the end of the amortization period. For purposes of these projections, we have assumed that the Funding Value of Assets would have a recognized rate of return of 6.75%.

As shown on the next page, employer contributions are expected to be significantly less than benefit payments for many years. The assets in the plan are not sufficient to cover current retiree liabilities and the ratio of assets (Market Value) to projected benefit payments for the upcoming fiscal year is about 7.9. This means that without additional contributions or investment income, plan assets can only pay retiree pensions for another several years. In a closed/frozen mature plan such as this one, it may become difficult to manage the significant amount of cash needed to pay retirement benefits and still earn the assumed rate of return if assets must be liquidated to pay retiree pensions.


PFRS Component II (Legacy Plan)
Projected Employer Contributions and Benefit Payments
$300
$250
$200
$150
$100
$50
$-
$Millions
2025
2030
2035
2040
2045
2050
2055
Fiscal Year Ending June 30
Projected Total Employer Contributions
Projected Benefit Payments


PFRS Component II (Legacy Plan)
Funding Projection
$1,000
$800
$600
$400
$200
$-
100%
80%
60%
40%
20%
0%
$Millions
Funded Ratio
2025
2030
2035
2040
2045
2050
2055
Valuation Date June 30
UAAL $
Funded Ratio %

Valuation Results – Comparative Statement ($ in Millions)

	Active Payroll		Actuarial Accrued Liabilities				
June 30	Total	Average	Computed Total	Valuation Assets[4]	Unfunded	Unfunded / Active Pays	Employer Contributions[5]
2001	$ 253	$ 45,353	$ 3,463	$ 3,900	$ (437)	-	27.22%
2002[1]	249	46,203	3,632	3,635	(3)	-	23.39%
2003	249	47,305	3,722	3,206	516	2.1	43.89%
2004	259	51,126	3,858	3,075	783	3.0	54.36%
2005[3]	251	52,197	3,780	3,758	23	0.1	25.98%
2006[3]	228	52,908	3,809	3,980	(171)	-	25.09%
2007[2,3]	230	54,647	3,897	4,307	(410)	-	26.71%
2008[1]	233	57,090	4,071	4,316	(245)	-	26.27%
2009	232	57,418	4,221	3,945	276	1.2	35.22%
2010[1,2]	229	57,322	3,767	3,853	(86)	-	23.02%
2011	221	57,773	3,809	3,805	4	0.0	23.14%
2012[1]	206	57,374	3,823	3,676	147	0.7	30.59%
2013[2]	187	57,163	3,890	3,546	345	1.8	44.93%
2014[1,2]			4,007	3,276	731		N/A
2015			4,053	3,195	859		$ 114.30
2016			4,002	2,950	1,051		37.79
2017			3,968	2,922	1,046		18.30
2018[2]			3,907	2,866	1,041		18.30
2019[2]			3,843	2,671	1,172		18.30
2020			3,725	2,417	1,308		18.30
2021[1,2]			3,375	2,749	626		18.30
2022			3,262	2,442	820		18.30
2023			3,192	2,312	880		18.30
2024[2]			3,161	2,274	888		89.10
2025[2]			3,065	2,264	801		92.40

[1] After changes in actuarial assumptions and/or methods.

[2] After Plan Amendments and/or benefit changes.

[3] 2005 and 2006 assets were revised following the June 30, 2006 valuation. 2007 assets were revised after the June 30, 2007 valuation.

[4] Funding Value of Assets prior to 2014. Market Value of Assets between 2014 and 2023. Funding Value of Assets in 2024 and thereafter.

[5] Prior to 2014, the employer contribution was computed as a percentage of active member payroll. Employer contributions include those from all sources, including those from the Foundation for Detroit's Future. The 2025 fiscal year includes a $5,000,000 contribution from the City to finance one-time supplemental checks paid to retirees.

Schedule of Funding Progress

Actuarial Valuation Date	Valuation Assets[6] (a)	Actuarial Accrued Liability (AAL) -- Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b - a) / c)
2001	$3,900,020,703	$3,463,248,393	$(436,772,310)	112.6%	$253,297,027	-
2002[1]	3,635,106,581	3,631,971,448	(3,135,133)	100.1%	248,663,133	-
2003	3,205,516,657	3,721,593,210	516,076,553	86.1%	248,681,461	207.5 %
2004	3,074,516,589	3,857,493,282	782,976,693	79.7%	258,699,581	302.7 %
2005[3, 5]	3,757,884,417	3,780,447,414	22,562,997	99.4%	250,491,872	9.0 %
2006[3]	3,980,254,576	3,808,952,741	(171,301,835)	104.5%	228,140,160	-
2007[2, 3]	4,307,194,763	3,896,814,229	(410,380,534)	110.5%	230,173,964	-
2008[1]	4,316,263,291	4,071,053,752	(245,209,539)	106.0%	232,812,606	-
2009	3,945,205,453	4,221,291,045	276,085,592	93.5%	231,795,528	119.1 %
2010[1, 2]	3,853,279,381	3,767,364,201	(85,915,180)	102.3%	228,829,999	-
2011	3,804,759,868	3,808,642,533	3,882,665	99.9%	220,461,691	1.8 %
2012[1]	3,675,459,604	3,822,676,002	147,216,398	96.1%	205,800,278	71.5 %
2013[2, 4]	3,474,538,021	3,890,143,341	415,605,320	89.3%	186,694,166	222.6 %
2014[1, 2]	3,276,203,299	4,007,323,791	731,120,492	81.8%		
2015	3,194,754,441	4,053,351,943	858,597,502	78.8%		
2016	2,950,470,450	4,001,721,957	1,051,251,507	73.7%		
2017	2,922,141,978	3,967,895,457	1,045,753,479	73.6%		
2018[2]	2,866,303,805	3,907,378,106	1,041,074,301	73.4%		
2019[2]	2,670,843,356	3,843,266,214	1,172,422,858	69.5%		
2020	2,417,248,140	3,725,317,772	1,308,069,632	64.9%		
2021[1, 2]	2,749,073,539	3,374,948,092	625,874,553	81.5%		
2022	2,442,114,254	3,262,290,407	820,176,153	74.9%		
2023	2,311,735,032	3,191,555,017	879,819,985	72.4%		
2024[2]	2,273,507,700	3,161,254,822	887,747,122	71.9%		
2025[2]	2,264,030,204	3,065,364,275	801,334,071	73.9%		

[1] After changes in actuarial assumptions and/or methods.
[2] After Plan Amendments and/or benefit changes.
[3] 2005 and 2006 assets were revised following the June 30, 2006 valuation. 2007 assets were revised after the June 30, 2007 valuation.
[4] Assumes past due contributions of $71 million are made.
[5] After POC transfer.
[6] Funding Value of Assets prior to 2014. Market Value of Assets between 2014 and 2023. Funding Value of Assets in 2024 and thereafter.

Liabilities Related to Restoration and the Restoration Reserve Account

Section K-3 (Restoration of Pension Benefits) of the Combined Plan, provides that COLA benefits eliminated as part of the POA may be restored if certain conditions are met. Restored COLA benefits are paid out of the Restoration Reserve Account (RRA), the balance of which depends on the Plan's funded ratio. As of the June 30, 2023 actuarial valuation and in accordance with Section K-3(2)(d), the Funded Level was below the target of 75% and the resulting RRA balance was $0. Furthermore, in accordance with Section K-3(2)(e), the Retirement System had not satisfied the Permanent Restoration target of 78% and therefore no permanent restoration occurred for the applicable Waterfall Class at that time.

Beginning July 1, 2023, rules for restoration are based upon Section K-3(3) (Restoration of Benefits from July 1, 2023 to June 30, 2033). According to Section K-3(3)(a), the 2023 Funded Level was 72.4% (which is below 74%) and therefore the resulting 2033 Funding Target and Restoration Target are expected to be 75.4% and 81%, respectively (note, legal review may be required to determine whether the Funding Target should be rounded to the nearest percent). Determination of whether restoration payments can be paid on or after July 1, 2023 follows similar rules that applied during the period ending June 30, 2023 (see Section K-3(3)(b)).

Based upon the projection included in the June 30, 2023 actuarial valuation using a 30-year level principal amortization, the funded level of the System is not projected to go above 73% by 2033. **Additional instruction from the System will be required to interpret the exact methodology that the Plan Actuary shall use to determine whether the 2033 Restoration Target has been satisfied. This valuation assumes no future restoration of Component II benefits.**

Comments and Recommendations

Component II History

The City of Detroit filed for bankruptcy on July 18, 2013. A final Plan of Adjustment ("POA") was confirmed on November 7, 2014 and the official exit from bankruptcy was on December 10, 2014. In connection with the POA, very significant changes were made to the benefits that the Police and Fire Retirement System provides and to the contributions that it received through June 30, 2025. In particular, the benefits provided by the Retirement System were divided into two separate plans, referred to as "Component I" and "Component II." The benefits provided in each component were effective July 1, 2014 and are described in detail in the Emergency Manager Order No. 44, dated December 8, 2014.

Experience

Experience was more favorable than assumed during the year ending June 30, 2025. The main source of the gain was the phasing in of investment gains from the 2024 and 2025 fiscal years, increasing the Funding Value of Assets. The chart below shows the estimated total experience gain and the portion of the gain/loss due to investments.

Development of Actuarial Gain/Loss on a Funding Value of Asset Basis

		Actuarial Accrued Liability (AAL) (A)	Funding Value of Assets (B)	Unfunded Actuarial Accrued Liability (C) = (A) - (B)
(1)	Beginning of Year (BOY)	$ 3,161,254,822	$ 2,273,507,700	$ 887,747,122
(2)	Total Contributions	-	92,400,000	(92,400,000)
(3)	Benefit Payments and Refunds	(292,977,009)	(292,977,009)	-
(4)	Administrative Expenses	-	(2,888,668)	2,888,668
(5)	Interest	203,496,726	143,476,303	60,020,423
(6)	Expected End of Year Before Changes (1)+(2)+(3)+(4)+(5)	$ 3,071,774,539	$ 2,213,518,326	$ 858,256,213
(7)	Benefit Changes	5,168,751	-	5,168,751
(8)	Assumption Changes	-	-	-
(9)	Expected End of Year After Changes (6)+(7)+(8)	3,076,943,290	2,213,518,326	863,424,964
(10)	Actual Value at End of Year	3,065,364,275	2,264,030,204	801,334,071
(11)	Gain or Loss (9)-(10)	$ 11,579,016 Gain	$ (50,511,878) Gain	$ 62,090,894 Gain
(12)	Percent of BOY AAL (11)/(1A)	0.37%	(1.60%)	1.96%

Experience (Concluded)

Source of Actuarial Gain/Loss

Type of Risk Area	Gain or (Loss) in Period: Totals ($ in millions)	Gain or (Loss) in Period: Percent of AAL^
Risks Related to Expeience during the Year		
Economic Risk Areas:		
Investment Return (FVA)	50.5	1.6 %
Demographic Risk Areas:		
Active Experience	7.5	0.2 %
Post-Retirement Mortality (Inc. DROP)	(2.6)	(0.1)%
Total Gain or Loss Related to Experience	55.4	1.8 %
Other Experience	6.7	0.2 %
Total Gain or Loss during Period (FVA)	62.1	2.0 %

^ Beginning of year Actuarial Accrued Liabilities were $3,161.3 million (i.e., $3.2 billion).

Active Experience is an estimate of the gain/loss attributable to the experience of members who were active at the beginning of the year (retirements, withdrawals, etc.). Post-Retirement Mortality experience is an estimate of the gain/loss attributable to the mortality of retirees and beneficiaries in payment status at the beginning of the year. Other Experience includes all other gain/loss that occurred during the year including items such as: unexpected changes in data, inactive member experience, actual vs. expected benefit payments during the year, ASF experience, etc.

Demographic Experience

A summary of Actual (A) to Expected (E) activity is shown in the table below.

Year Ended June 30	Retiree Deaths[1] A	Retiree Deaths[1] E	A/E%
2021	274	236	116%
2022	389	282	138%
2023	278	276	101%
2024	262	280	94%
2025	**297**	**284**	105%

[1]Includes DROP.

Note: Significant differences between actual vs. expected deaths may be as a result of data changes and not reflect actual mortality.

Comments and Recommendations

Funding Policy

In order to minimize the risk of insolvency, it is important that timely employer contributions in an amount equal to or greater than an actuarially calculated amount are received, in accordance with the funding policy. Please note that the current funding policy does not align with the actuarially calculated amount determined in this report as a result of a bankruptcy court ruling that the System amortize the Unfunded Actuarial Accrued Liabilities existing as of June 30, 2023 over 30 years.

Quarterly Contributions

The Component II Actuarially Determined Employer Contribution of $80,570,618 on page 3 assumes that contributions of $20,142,655 would be made on a quarterly basis, rather than once per year (at year end) during the 2027 fiscal year. The Actuarially Determined Employer Contribution for the year if payment was made at the end of the fiscal year would have been $82,582,310**. If the City is unable to make the quarterly contribution in any given quarter, we recommend a catch-up contribution equal to 25% of the end of year amount ($82,582,310 x 25% = $20,645,578).**

Actuarial Assumptions

There were no changes in actuarial assumptions since the June 30, 2024 actuarial valuation. The next comprehensive review of experience is scheduled to occur prior to the June 30, 2026 actuarial valuation and will cover the period from July 1, 2020 to June 30, 2025.

Benefit Changes – Supplemental Checks in 2025 Fiscal Year

During the 2025 fiscal year, an additional $5 million contribution from the City was made to the Retirement System to finance one-time supplemental checks paid to retirees. This one-time benefit payment was treated as ad-hoc and included (with interest assuming mid-year payment to the measurement date) in the gain/loss analysis as a benefit change to the Plan.

Annuity Reserve Fund (ARF)

The ARF does not appear to have been credited with any interest during the year. Additionally, per Section G-2(e) of the Plan of Adjustment (POA), upon death or retirement of a member, his or her Accumulated Contributions shall be transferred from the Annuity Savings Fund (ASF) to the Annuity Reserve Fund (ARF). As of June 30, 2025, there appears to be ASF balances attributable to members in retirement status.

The ARF, as reported, was $26.7 million higher than the related accrued liabilities for Retirees and Beneficiaries. Before any decisions to transfer some or all of the $26.7 million from the ARF to the Pension Accumulation Fund (PAF) within Component II are made, we recommend a review of the various reserve funds (ASF, ARF and PAF) related to transfers upon retirement/termination of employment and interest crediting.

Option Factors

The Board adopted option factors for the Plan in 2018. It is our understanding that the new factors have been fully implemented as of this valuation.

An experience study is scheduled to be performed following the June 30, 2025 valuation. We recommend the System consider whether the assumptions for optional forms of payment should be updated in conjunction with the next experience study given that they were just recently updated.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

Plan Risk Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk.

In our discussions with the Board and Investment Committee, we illustrated various investment return scenarios as part of the funding policy analysis. This type of analysis may also be considered a quantitative risk assessment. We recommend that the Board consider similar periodic analysis as appropriate under the Risk Controls of the newly approved funding policy.

The Board approved funding policy calls for illustrating the table of risk measures shown on page 18. Please see the funding policy in the appendix for additional information. In the table on page 18, the acronyms are as follows: FVA = Funding Value of Assets; MVA = Market Value of Assets; AAL = Actuarial Accrued liability; UAAL = Unfunded Actuarial Accrued Liability).

Funded Ratio

The funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

Rate of Return, Geometric Average, and Standard Deviation

Investment return is probably the largest single risk that most systems face. The year-by-year return and the geometric average give an indicator of the realism of the System’s assumed return.

Duration of the Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Ratio of Unfunded Actuarial Accrued Liability to Payroll

The ratio of unfunded liability to payroll gives an indication of the plan’s sensitivity to differences between assumed and actual experience related to the employer contributions. A value above approximately 300% or 400% may indicate high volatility relative to small gains and losses.

Ratio of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Ratio of Non-Investment Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, and stress tests. We can provide additional risk assessments at the Board's request.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

	2025	2024	2023	2022	2021	2020
(i) Classic Measures						
– Funded ratio						
MVA	76.4%	73.4%	72.4%	74.9%	81.5%	64.9%
FVA	73.9%	71.9%	72.4%	74.9%	N/A	N/A
– UAAL amortization period	27	28	29	30	N/A	N/A
– Portfolio rate of return						
MVA	10.35%	9.85%	6.89%	-0.99%	27.11%	1.20%
FVA	9.13%	7.83%	6.8%	N/A	N/A	N/A
– Geometric average portfolio rate of return[1]						
5-year						
MVA	10.27%	8.38%	7.11%	7.16%	10.02%	2.36%
FVA	7.92%	7.31%	6.8%	N/A	N/A	N/A
10-year						
MVA	8.71%	N/A	N/A	N/A	N/A	N/A
FVA	N/A	N/A	N/A	N/A	N/A	N/A
– Standard deviation of return[1]						
5-year						
MVA	10.26%	11.11%	11.32%	11.31%	11.70%	1.17%
FVA	1.17%	0.7%	N/A	N/A	N/A	N/A
10-year						
MVA	9.96%	N/A	N/A	N/A	N/A	N/A
FVA	N/A	N/A	N/A	N/A	N/A	N/A
(ii) Duration of the Actuarial Accrued Liability	8.2	8.4	8.5	8.7	8.8	9.4
(iii) Total UAAL / Covered Payroll[2]						
MVA	3.0	4.0	4.3	4.9	3.9	8.5
FVA	3.4	4.2	4.3	4.9	N/A	N/A
(iv) Total Assets / Covered Payroll[2]						
MVA	9.8	10.9	11.3	14.5	17.3	15.8
FVA	9.5	10.7	11.3	14.5	N/A	N/A
(v) Total AAL / Covered Payroll[2]	12.9	14.8	15.7	19.4	21.3	24.3
(vi) Non-Investment Cash flow / BOY MVA	-8.8%	-8.9%	-11.8%	-10.2%	-11.7%	-10.6%
(vii) MVA / Benefit Payments	8.0	8.0	7.6	8.2	9.1	8.0
(viii) Solvency Liability ($ millions)[3]	$ 3,662	$ 3,898	$ 4,181	$ 4,401	$ 5,679	$ 6,061

[1] These are developed prospectively from 2020 and consequently do not yet reflect full 5 or 10 years of experience.

[2] Payroll for this purpose is Component I payroll.

[3] See discussion on next page.

Low-Default-Risk Obligation Measure (Solvency Liability)

Introduction

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the "Low-Default-Risk Obligation Measure" (LDROM). The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below (emphasis added):

> "The ASB believes that the calculation and disclosure of this measure provides **appropriate, useful information for the intended user regarding the funded status of a pension plan**. The calculation and disclosure of this additional measure **is not intended to suggest that this is the "right" liability** measure for a pension plan. However, the ASB does believe that **this additional disclosure provides a more complete assessment of a plan's funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.**"

Comparing the Accrued Liabilities and the LDROM

One of the fundamental financial objectives of the System is to finance each member's retirement benefits. To fulfill this objective, the discount rate that is used to value the accrued liabilities is set equal to the **expected return** on the System's diversified portfolio of assets (referred to sometimes as the investment return assumption). For the System, the investment return assumption is 6.75%.

The LDROM is meant to approximately represent the lump sum cost to a plan to purchase low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa. The LDROM results presented in this report are based on the projected unit credit actuarial cost method and discount rates based upon the June 2025 Treasury Yield Curve Spot Rates (monthly average). The 1-, 5-, 10- and 30-year rates follow: 4.10%, 4.00%, 4.43% and 5.05%. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

Presented below are the Valuation Accrued Liability and the LDROM (Solvency Liability) as of June 30, 2024.

Valuation Accrued Liabilities	LDROM
$ 3,065,364,275	$ 3,662,336,750

Low-Default-Risk Obligation Measure (Solvency Liability)

Commentary Regarding the LDROM

Some ways in which the LDROM can assist the Board of Trustees in a decision-making process include:

(1) It provides information to potentially allow for better risk management for the System;
(2) It places the appropriateness of potential employer contribution rate reductions or benefit enhancements in a better context; and
(3) It provides more complete information regarding the benefit security of the membership's benefits earned as of the measurement date.

Potentially Allows for Better Risk Management: A very useful risk metric to exhibit potential contribution rate volatility (or amortization period volatility for fixed rate plans) is the ratio of assets to payroll or AAL to payroll. How could we reduce that potential contribution rate volatility (or amortization period volatility for fixed rate plans)? The LDROM and liability driven investing (LDI) are closely related concepts.

Other than reducing benefits, all other things being equal, the only way to reduce that volatility is to immunize (i.e., LDI) a portion of the System's liability. This does not mean that the System needs to immunize all of the liability. For example, if they could immunize half of it, they could reduce the contribution rate volatility in half. This would require the actuary to use a cash flow matching method to value that portion of the liabilities. This means that the actuary would not use the System's investment return assumption for this portion of the liability, but the yield curve resulting from the fixed income portfolio that is being used to immunize the liability. The value of the assets (i.e., fixed income portfolio) and the value of the immunized liability would move in tandem with any changes (up or down) in future interest rates. The result being that the immunized portion of the System's liability would reduce the potential of producing new unfunded actuarial accrued liabilities. However, the fixed income portfolio would still have the minor potential for credit default risk.

Places the Appropriateness of Potential Employer Contribution Rate Reductions or Benefit Enhancements in a Better Context: Many PERS have adopted a funding policy. Many funding policies already take into account the System's funded ratio (based upon the AAL) when considering whether to allow for benefit enhancements or contribution rate reductions. For example, a System may not allow for a benefit enhancement if the funded ratio does not exceed a certain threshold. Similarly, a System may not allow for an employer contribution rate reduction in some circumstances. For example, a reduction to the employer normal cost contribution may not be allowed until the System reaches a funded ratio of 120%. Given the fact that most criteria are based upon the expectation of earning the investment return assumption, a System may want to consider extending these criteria to a funded ratio based upon the LDROM in addition to the AAL.

Provides more Complete Information Regarding the Benefit Security of the Membership's Benefits Earned as of the Measurement Date: Too often a high funded ratio (i.e., 100% funded) on an AAL basis is interpreted as benefit security for the participants. The fact that this funded ratio is based upon an expected measure is many times overlooked. If the AAL and LDROM measures are relatively close, then the System at least has the opportunity to make benefits payable in the future more secure.

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 6.75% on the funding value of assets), it is expected that:

1) The unfunded actuarial accrued liabilities will be fully amortized 30 years after June 30, 2023.
2) The funded status and unfunded accrued liability will follow the pattern shown on page 6.

We have assessed that the Actuarially Determined Employer Contribution (ADEC) calculated under the funding policy in this report is reasonable. This assessment will be made each year with the determination based on the circumstances at that time and may or may not yield the same result.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the funding value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future administrative expense contributions.
3) The measurement would produce a different result if the market value of assets were used instead of the funding value of assets, unless the market value of assets is used in the measurement.

Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

Risks to Future Employer Contribution Requirements

There are ongoing risks to future employer contribution requirements to which the Retirement System is exposed, such as:

- Actual and Assumed Investment Rate of Return;
- Actual and Assumed Mortality Rates; and
- Amortization Policy.

Scenario Testing/Sensitivity Testing

If the Board would like to see additional projections, we would be happy to perform such projections.

DATA FURNISHED FOR VALUATION AND DERIVATION OF FUNDING VALUE OF ASSETS

Summary of Benefit Provisions
(June 30, 2025)

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit Police and Fire Retirement System as it existed on June 30, 2014 and all future Cost-of-Living Adjustments ("COLA's") were reduced from 2.25% to 1.0125% per year. The benefits evaluated in this report are the frozen reduced benefits. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below is a non-legal summary and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

Age and Service Retirement

Eligibility - 25 years of service regardless of age. 20 years of service regardless of age for eligible DPOA and DFFA members. DFFA members must retire by age 60.

Annual Amount - An annuity equal to the actuarial equivalent of the member's accumulated contribution account plus a defined benefit, which, when added to the annuity will provide the following:

Pre-1969 Members - For all service earned up to April 5, 2011 for DPLSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer's or firefighter's annual rate of compensation (actuarially reduced to reflect early payment).

For all service earned after April 5, 2011 for DPLSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer's or firefighter's annual rate of compensation.

1969 Plan Members - For all service earned up to April 5, 2011 for DPLSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service plus 2.1% of AFC times each of the next 10 years of service.

For all service earned after April 5, 2011 for DPLSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times each year of service, up to 35 years of service.

Members may elect to receive their accumulated contribution account in a lump sum after 25 years of service (20 years of service for eligible DPOA and DFFA members). The defined benefit at retirement is then reduced by the actuarial equivalent of the amount of principal withdrawn. No reduction is made with regard to the interest portion of the withdrawal. Pre-1969 plan members may elect 1969 plan benefits at the time of retirement.

Summary of Benefit Provisions (June 30, 2025) (Continued)

Type of Average Final Compensation (AFC) - Average of the current compensation for the ranks held in each of last 5 years (last 3 years for DPCOA, Executive Members and their Fire equivalents). Pension benefits for non-union employees may not be diminished due to a reduction in compensation because of fiscal emergency. AFC includes prior longevity distributions during the averaging period in accordance with the following schedule: 1% of compensation after 5 years of service, 2% after 11 years, 3% after 16 years and 4% after 21 years. A member may elect that upon retirement or upon death before retirement either (i) a lump sum payment equal to 85% (100% for DPOA and DPCOA members) of the amount of his or her unused accumulated sick leave bank, or (ii) to have the 3-year average of 25% of the value of the accumulated unused sick leave bank added to his or her AFC. Any member electing the AFC adjustment option will also be paid a lump sum equal to the remaining value of the sick leave bank as provided in (i) above. Lump sum payments are not paid by the Retirement System.

Deferred Retirement (Vested Benefit)

Eligibility - 10 years of service for DPOA and Fire equivalents, age 40 with 8 years of service for all others.

Annual Amount - Same as regular retirement but based on average final compensation and credited service at the time of termination.

Benefit Commencement - DPOA and Fire equivalent members hired after 6/30/1985: Unreduced benefit begins at age 62. ***All other members***: Unreduced benefit begins at the age when the member would have first been eligible for regular retirement had the member continued in City service. **All** members may elect a reduced benefit payable immediately.

Note, for valuation purposes, the frozen accrued benefit was valued in the event of a death or disability. The following death and disability provisions are provided for historical purposes only.

Duty Disability Retirement

Eligibility - No age or service requirement.

Annual Amount - A basic benefit of 50% of final compensation as of June 30, 2014 and a supplemental benefit of 16-2/3% of final compensation as of June 30, 2014 is payable for 24 months. After 24 months, members disabled from any occupation continue to receive both benefits; otherwise, only the 50% benefit is then payable. Upon attaining 25 years of service, the disability benefit is 50% of final compensation as of June 30, 2014. Members convert to regular retirement benefit at age 65. Worker's compensation payments are offset. Members who have already filed under the old duty disability plan will receive 66-2/3% of final compensation as of June 30, 2014 payable to eligibility date for regular retirement. Benefits prior to age 65 are assumed to be paid from Component I. Benefits after age 65 are assumed to be paid from Component II (this plan).

Non-Duty Disability Retirement

Eligibility - 5 years of service.

Annual Amount - Computed as a regular retirement benefit, but based on average final compensation and credited service at the time of disability. Minimum benefit is 20% of average final compensation. Benefits are assumed to be paid from Component II (this plan) upon becoming disabled.

Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount - Surviving spouse receives 5/11 of police officer's or firefighter's compensation and each child under age 18 receives 1/10 of such compensation with a maximum total of 7/33 of such compensation as of June 30, 2014. If there is no surviving spouse, each child receives 1/4 of such compensation with a maximum total of 1/2 of such compensation. If there is no surviving spouse or children, each dependent parent receives 1/6 of such compensation. Worker's compensation payments are offset. Benefits are assumed to be paid from Component I.

Non-Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount - Same as a regular retirement benefit to a surviving spouse, but reduced in accordance with a 100% joint and survivor option election. Minimum benefit is 20% of average final compensation as of June 30, 2014. Each child under 18 receives 1/7 of Police Officer's or Firefighter's compensation with a maximum total of 2/7 of such compensation. If there is no spouse or children, each dependent parent receives 1/7 of such compensation. Benefits are assumed to be paid from Component II (this plan).

Post-Retirement Cost-of-Living Adjustments

Pre-1969 Members - Allowances increase in proportion to active member compensation for the corresponding rank. These increases are not considered COLAs and are therefore not reduced under the POA.

1969 Plan Members - Police retired after July 1, 2001, certain Police classes retired after July 1, 1998 and all Fire members: For all service earned up to April 5, 2011 for DPLSA members (September 1, 2011 for DPOA members) pensions increase by 2.25% of the **current** pension amount each July 1. No cost-of-living adjustments for service earned after April 5, 2011 for DPLSA members (September 1, 2011 for DPOA members). COLA is reduced by 45% according to the POA.

Member Contributions

5% of covered compensation payable until first eligible for regular retirement. Interest on member contributions provides benefits in addition to the formula benefit.

DROP Plan

Members with 25 years (20 years for DPOA members) of service may elect to participate in the DROP. When a DROP election is made, the member ceases to accrue any further age and service retirement benefits. Seventy-five percent, 75%, **(eighty-five percent, 85%, effective June 30, 2024)** of the member's benefit (accrued to their DROP date) is contributed to a DROP account (a defined contribution account). At retirement the member is entitled to the balance in the DROP account and a monthly benefit equal to 100% of their benefit accrued to their DROP date, increased by any post-retirement increases that the member would have received, had the member been retired. Fire members must retire from the DROP plan at age 60. Participation in the DROP is limited to 10 years for DPLSA members electing to DROP after April 5, 2011 and prior to July 1, 2014. Members electing DROP after July 1, 2014 are limited to 5 years of DROP participation. Effective October 31, 2018, DPLSA and DPCOA members are limited to 10 years of DROP participation. Effective May 9, 2019, DPOA members are limited to 10 years of DROP participation. Effective September 21, 2021, DPLSA members are limited to 15 years of DROP participation.

Asset Information Furnished for the Valuation

Reported Assets
(Market Value)

Asset Class	Market Value June 30, 2025	Market Value June 30, 2024
Cash and Cash Equivalents	$ 169,159,887	$ 154,886,281
Investments at fair value	2,169,993,564	2,162,196,287
Receivables	16,714,749	24,698,478
Cash and Investments held as collateral for securities lending	100,823,996	77,705,620
Capital Asset - Net	3,841,492	3,968,316
Accounts Payable	(119,980,024)	(104,126,988)
Total Current Assets	**$ 2,340,553,664**	**$ 2,319,327,994**

Reserve Accounts

Funds	Fund Balances June 30, 2025	Fund Balances June 30, 2024
Annuity Savings	$ 74,766,680	$ 78,671,706
Annuity Reserve	29,471,682	29,767,445
Total Annuity Funds	$ 104,238,362	$ 108,439,151
Pension Accumulation	$ 857,392,320	$ 547,421,397
Pension Reserve	1,401,600,755	1,682,727,287
Survivor Benefit	(22,677,773)	(19,259,841)
Restoration Reserve Account	-	-
Total Pension Funds	$ 2,236,315,302	$ 2,210,888,843
Total Fund Balances	$ 2,340,553,664	$ 2,319,327,994

Asset Information Used for the Valuation

Revenues and Expenditures

	Annuity Savings Fund	Annuity Reserve Fund	Pension Survivor Benefit	Pension Accumulation Fund	Pension Reserve Fund	Restoration Reserve Account	Total
Market Value June 30, 2024	$ 78,671,706	$ 29,767,445	$ (19,259,841)	$ 547,421,398	$ 1,682,727,286	$ -	$ 2,319,327,994
Adjustment to Match June 30, 2024 Valuation	-	-	-	(1)	1	-	-
Balance after Reserve Adjustment	$ 78,671,706	$ 29,767,445	$ (19,259,841)	$ 547,421,397	$ 1,682,727,287	$ -	$ 2,319,327,994
Additions:							
Employer Contributions	$ -	$ -	$ -	$ 92,400,000	$ -	$ -	$ 92,400,000
Member Contributions	-	-	-	5,953	-	-	5,953
Other Income	-	-	-	1,328,936	-	-	1,328,936
Annuity Interest	3,943,153	-	-	-	-	-	3,943,153
Annuity Loan Interest	127,744	-	-	-	-	-	127,744
Investment Income - Net	-	-	-	219,285,561	-	-	219,285,561
Total	$ 4,070,897	$ -	$ -	$ 313,020,450	$ -	$ -	$ 317,091,347
Deductions:							
Pension and Annuity Benefits	$ -	$ 295,763	$ 3,417,932	$ -	$ 281,126,532	$ -	$ 284,840,227
Refunds and Withdrawals	8,136,782	-	-	-	-	-	8,136,782
General and Administrative Expenses	-	-	-	2,888,668	-	-	2,888,668
Other	-	-	-	-	-	-	-
Total	$ 8,136,782	$ 295,763	$ 3,417,932	$ 2,888,668	$ 281,126,532	$ -	$ 295,865,677
Transfer from Component II to Component I	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other Transfer Out	$ -	$ -	$ -	$ (160,859)	$ -	$ -	$ (160,859)
Other Transfer In	$ 160,859	$ -	$ -	$ -	$ -	$ -	$ 160,859
Market Value June 30, 2025	$ 74,766,680	$ 29,471,682	$ (22,677,773)	$ 857,392,320	$ 1,401,600,755	$ -	$ 2,340,553,664
Market Value Rate of Return	5.45%	0.00%	0.00%	40.41%	0.00%	0.00%	10.35%

Rates of return are dollar weighted estimates assuming mid-year cash flows with the exception of the EOY employer contributions. “Other Income” was treated as investment income. Currently, all investment income is being credited to the Pension Accumulation Fund. The System should review whether this practice is appropriate.

Funding Value of Assets

	2023	2024	2025	2026	2027
A. Funding Value Beginning of Year	$ 2,442,114,254	$ 2,309,631,242	$ 2,273,507,700		
B. Market Value End of Year	2,311,735,032	2,319,327,994	2,340,553,664		
C. Market Value Beginning of Year	$ 2,442,114,254	$ 2,311,735,032	2,319,327,994		
D. Contributions during Year:					
D1. City Contributions (End of Year)	18,300,000	89,100,000	92,400,000		
D2. Member Contributions	0	0	5,953		
D3. Total	18,300,000	89,100,000	92,405,953		
E. Disbursements:					
E1. Benefits Paid during Year	284,671,878	282,395,014	284,840,227		
E2. Refunds	10,424,921	9,252,268	8,136,782		
E3. Transfers	8,448,522	0	0		
E4. Administrative Expenses	2,793,367	2,969,158	2,888,668		
E5. Total	306,338,688	294,616,440	295,865,677		
F. Investment Income:					
F1. Average Funding Value	2,288,944,910	2,162,323,022	2,125,577,838		
F2. Assumed Rate	6.75%	6.75%	6.75%		
F3. Amount for Immediate Recognition: F1 X F2	154,503,781	145,956,804	143,476,504		
F4. Market Total: B - C - D3 + E5	157,659,466	213,109,402	224,685,394		
F5. Amount for Phased-In Recognition: F4-F3	3,155,685	67,152,598	81,208,890		
G. Phased-In Recognition of Investment Income:					
G1. Current Year: F5/3	1,051,895	22,384,199	27,069,630		
G2. 1st Prior Year	0	1,051,895	22,384,199	$ 27,069,630	
G3. 2nd Prior Year	0	0	1,051,895	22,384,200	$ 27,069,630
G4. Total Recognized Investment Gain	1,051,895	23,436,094	50,505,724	49,453,830	27,069,630
H. Total Interest Distributed - Current Year: F3 + G4	155,555,676	169,392,898	193,982,228		
I. Funding Value End of Year:					
I1. Preliminary Funding Value End of Year: A + D - E + H	2,309,631,242	2,273,507,700	2,264,030,204		
I2. Upper Corridor Limit 115% x B	2,658,495,287	2,667,227,193	2,691,636,714		
I3. Lower Corridor Limit 85% x B	1,964,974,777	1,971,428,795	1,989,470,614		
I4. **Funding Value End of Year**	**$ 2,309,631,242**	**$ 2,273,507,700**	**2,264,030,204**		
J. Difference between Market & Funding Value: B - I4	2,103,790	45,820,294	76,523,460		
K. Recognized Rate of Return: H / F1	6.80%	7.83%	9.13%		
L. Market Rate of Return: F4 / (F1 + C - A)	6.89%	9.85%	10.35%		
M. Ratio of Actuarial Value to Market Value: I4 / B	99.91%	98.02%	96.73%		

The Funding Value of Assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 3-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. The Funding Value of Assets is unbiased with respect to Market Value. At any time, it may be either greater or less than Market Value.

Retirees and Beneficiaries as of June 30, 2025
Tabulated by Attained Age[1]

Attained Age	Age & Service No.	Age & Service Annual Allowances	Disability[3] No.	Disability[3] Annual Allowances	Death-in-Service No.	Death-in-Service Annual Allowances	Totals No.	Totals Annual Allowances
Under 20[2]					22	$ 171,912	22	$ 171,912
20-24	3	$ 48,732			1	14,616	4	63,348
25-29	3	76,800					3	76,800
30-34	4	80,580			1	25,572	5	106,152
35-39	6	138,960					6	138,960
40-44	19	265,860	13	$ 503,688	4	114,060	36	883,608
45-49	111	1,954,236	43	1,553,856	13	270,744	167	3,778,836
50-54	323	6,686,496	67	2,253,816	20	485,220	410	9,425,532
55-59	475	13,250,124	75	2,488,212	19	433,608	569	16,171,944
60-64	618	20,743,483	115	4,070,220	18	426,804	751	25,240,507
65-69	683	25,037,076	116	3,948,516	23	609,564	822	29,595,156
70-74	1,075	42,895,788	247	8,551,344	34	929,748	1,356	52,376,880
75-79	1,325	54,876,900	306	9,837,348	48	1,181,292	1,679	65,895,540
80-84	778	30,350,724	162	5,709,120	24	654,096	964	36,713,940
85-89	362	13,687,740	42	1,602,048	11	323,568	415	15,613,356
90-94	170	5,500,596	15	643,320	4	118,500	189	6,262,416
95 & Over	83	2,555,592	7	305,220	9	320,256	99	3,181,068
Totals	**6,038**	**$218,149,687**	**1,208**	**$41,466,708**	**251**	**$6,079,560**	**7,497**	**$265,695,955**

[1] Includes both pre-1969 and 1969 retirees. Allowances being paid to DROP members are not reflected. Allowances shown are amounts as reported in the data.

[2] May include records with incorrect birth dates reported.

[3] Excludes Post-2014 Pre-Conversion Duty Disability members.

Inactive Vested Members June 30, 2025

Attained Age	No.	Estimated Annual Allowances
Under 40	14	$ 62,017
40-44	33	426,164
45-49	102	1,704,662
50-54	98	1,611,982
55-59	68	1,145,967
60-64	26	481,281
65 & over	19	393,278
Totals	**360**	**$5,825,351**

Pre-1969 Retirees and Beneficiaries as of June 30, 2025
Tabulated by Attained Age

Attained Age	Age & Service[1] No.	Age & Service[1] Annual Allowances	Disability[1] No.	Disability[1] Annual Allowances	Death-in-Service No.	Death-in-Service Annual Allowances	Totals No.	Totals Annual Allowances
50-54	1	$ 40,488					1	$ 40,488
55-59	1	18,924					1	18,924
60-64	2	22,200					2	22,200
65-69	8	194,976			1	$ 32,652	9	227,628
70-74	17	538,524			2	69,132	19	607,656
75-79	118	3,789,696	20	$ 796,920	13	443,148	151	5,029,764
80-84	263	9,051,396	78	2,987,604	12	399,336	353	12,438,336
85-89	210	7,558,536	34	1,322,496	10	293,856	254	9,174,888
90-94	107	3,361,128	10	394,248	4	118,500	121	3,873,876
95 & Over	59	1,740,900	7	305,220	8	276,720	74	2,322,840
Totals	**786**	**$26,316,768**	**149**	**$5,806,488**	**50**	**$1,633,344**	**985**	**$33,756,600**

[1] *Includes survivor beneficiaries of service and disability retirees.*

DROP Participants June 30, 2025

Attained Age	No.	Estimated Annual Allowances[1]
40-44	3	$ 40,236
45-49	56	864,096
50-54	140	2,555,232
55-59	159	3,406,944
60-64	94	2,379,372
65-69	36	1,165,428
70-74	16	657,276
75+	4	164,796
Totals	**508**	**$11,233,380**

[1] *Reflects the 85% of reported monthly benefits being paid into DROP accounts.*

Active Members as of June 30, 2025
by Attained Age and Years of Service (Excludes DROP)

Note the following active member schedules show eligibility service (total service) as of the valuation date.

Police Members

Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.
30-34			14					14
35-39		2	29	19				50
40-44		1	22	56	26	1		106
45-49	1	1	6	38	68	51		165
50-54		1	3	24	40	88	4	160
55-59			5	15	26	42	9	97
60				1	3	6		10
61			2		3	4		9
62					2	1		3
63				1	1	1	2	5
64				1	1	2	2	6
65					1	1		2
66					1	1		2
67				1		1		2
Totals	**1**	**5**	**81**	**156**	**172**	**199**	**18**	**632**

Fire Members

Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.
25-29			1					1
30-34		3	15					18
35-39			18	2				20
40-44			14	9	9			32
45-49			9	21	31	34		95
50-54	1		6	9	42	51	12	121
55-59			1	8	13	35	19	76
60						1	2	3
Totals	**1**	**3**	**64**	**49**	**95**	**121**	**33**	**366**

Total Active Members as of June 30, 2025
by Attained Age and Years of Service (Excludes DROP)

Note the following active member schedules show eligibility service (total service) as of the valuation date.

Total Members

Attained Age	Years of Service to Valuation Date							Totals
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.
25-29			1					1
30-34		3	29					32
35-39		2	47	21				70
40-44		1	36	65	35	1		138
45-49	1	1	15	59	99	85		260
50-54	1	1	9	33	82	139	16	281
55-59			6	23	39	77	28	173
60				1	3	7	2	13
61			2		3	4		9
62					2	1		3
63				1	1	1	2	5
64				1	1	2	2	6
65					1	1		2
66					1	1		2
67				1		1		2
Totals	**2**	**8**	**145**	**205**	**267**	**320**	**51**	**998**

Group Averages

	Police	Fire	Total
Age:	48.8 years	49.1 years	48.9 years
Benefit Service:	10.9 years	11.4 years	11.1 years
Eligibility Service:	21.6 years	22.1 years	21.8 years

Summary of Membership Data by Category (Excluding Disability Retirees)

	June 30, 2025	June 30, 2024
Active Members (Excluding DROP)		
Number	998	1,096
Average age (years)	48.9	47.8
Average service (years)	21.8	20.9
Members in DROP		
Number	508	562
Average age (years)	57.3	56.5
Total annual benefits[1]	$ 11,233,380	$ 12,603,300
Average annual benefit[1]	$ 22,113	$ 22,426
Inactive Vested Members		
Number	360	379
Average age (years)	52.3	51.3
Total annual deferred benefits	$ 5,825,351	$ 6,466,463
Average annual deferred benefit	$ 16,182	$ 17,062
Service Retirees		
Number	4,791	4,821
Average age (years)	70.7	70.4
Total annual benefits[2]	$ 180,009,020	$ 181,117,831
Average annual benefit[2]	$ 37,572	$ 37,569
Beneficiaries (Including Death in Service)		
Number	1,498	1,484
Average age (years)	75.8	75.1
Total annual benefits[2]	$ 44,453,585	$ 42,648,803
Average annual benefit[2]	$ 29,675	$ 28,739

[1] Reflects the 85% of reported monthly benefits being paid into DROP accounts.
[2] Including annuities. Before application of July 1, 2024 COLA/VPIF (if any).

Summary of Membership Data by Category (Disability Retirees)

	June 30, 2025	June 30, 2024
Pre-2014 Pre-Conversion Duty Disability		
Number	254	269
Average age (years)	55.5	54.7
Total annual benefits (pre-conversion)[1]	$ 8,776,952	$ 9,399,170
Average annual benefit (pre-conversion)[1]	$ 34,555	$ 34,941
Post-2014 Pre-Conversion Duty Disability		
Number	89	90
Average age (years)	52.8	52.2
Total annual benefits (post-conversion)	$ 1,880,201	$ 1,986,753
Average annual benefit (post-conversion)	$ 21,126	$ 22,075
Other Disability Retirees		
Number	954	983
Average age (years)	75.6	74.9
Total annual benefits[1]	$ 32,755,432	$ 33,378,074
Average annual benefit[1]	$ 34,335	$ 33,955

[1] *Including annuities. Before application of July 1, 2024 COLA/VPIF (if any).*

Post-2014 Pre-Conversion Duty Disability are members that were reported as duty disabled after June 30, 2014 and have not yet converted. In the data, they are reported as Component I (Hybrid) members. We have valued the pre-conversion benefit out of the Component I (Hybrid) plan and estimated the post-conversion benefit payable out of Component I (Hybrid) and Component II (Legacy). An additional summary of these members is shown below:

	Police	Fire	6/30/2025 Totals	6/30/2024 Totals
Number	74	33	107	110
Est number with post-conv. Legacy benefits	64	25	89	90
Annual benefits as reported	$ 2,863,129	$ 1,252,414	$ 4,115,543	$ 4,264,721
Average benefits as reported	$ 38,691	$ 37,952	$ 38,463	$ 38,770
Estimated post-conversion Legacy benefits	$ 1,299,074	$ 581,127	$ 1,880,201	$ 1,986,753
Estimated post-conversion Hybrid benefits	$ 1,679,887	$ 681,455	$ 2,361,342	$ 2,461,271

Post-conversion benefits were calculated by using:

- Estimated benefit service that will be attributable to each plan upon conversion. The service on the file is service accrued from date of hire to the date of disability. The date of disability and reported service is used to:
  - Calculate Hybrid benefit service which is the amount of service accruing after 2014
  - Calculate Legacy benefit service which is frozen as of 2014
- Estimated AFC which is determined through the current benefit:
  - 50% of AFC is payable if the member has more than 25 years of service
  - 66 2/3% of AFC is payable if the member has less than 25 years of service

Reconciliation of Reported Data as of June 30, 2025

Active Data

A) Count reported in Active file	10,631
B) Duplicate Records	(14)
C) General Revenue Group	(7,286)
D) No Reported Legacy Service	(2,332)
E) Non-eligible class code & bargaining unit	-
F) Refunded Hybrid Mandatory Contributions	-
G) Hired in June 2014 & zero ASF balance	-
H) On Retiree File	(1)
I) Actives excluding DROP	998

Inactive Vested Data

A) Number of records reported on data file	4,461
B) Records on Retiree File	(8)
C) General Revenue Group	(3,379)
D) Less than 8 years of Legacy plus Hybrid vesting service	(149)
E) Receiving a Legacy benefit but have a Hybrid deferred benefit	(562)
F) Terminated after 6/30/2025	(1)
G) In Active File with Legacy service but refunded Hybrid mandatory contributions	-
H) No Legacy benefit service	(2)
I) Number of records to value	360

Retired Data

A) Number of Records reported on data file	20,210
B) Number of records not in P/F plan	(11,512)
C) Pre-Conversion Duty-Disability	(4)
D) Coded as Hybrid	(683)
E) Records in DROP	(508)
F) Records with no reported pension or annuity	(5)
G) Expired Dependent Child Benefit	(1)
H) Number of records valued	7,497

Active Row B: It is our understanding that through the course of the year these members were terminated from either GRS or PFRS and are active in the other plan. This resulted in there being two records for these members. These people will be included in their current reported revenue group. The record in the Retirement System the member is no longer active was removed.

Active Row C*:* Are records that were reported with a revenue group other than “7” (police) or “8” (fire).

Active Row D: In prior years, records with reported date of hire after June 30, 2014 were removed from the Legacy active rolls. For the 2025 valuation, only members with no reported Legacy service were removed.

Active Row E: We have received a separate list of Class Codes and Bargaining Units that are not eligible to receive Legacy benefits. Individuals reported with these codes/units were excluded.

Inactive Row C*:* Are records that were reported with a revenue group other than “7” (police) or “8” (fire).

Reconciliation of Year-to-Year Data
as of June 30, 2025

	Active	Terminated Vested	DROP		Retirees		Post-2014 Pre-Conversion Duty Disability	Totals
	Count	Count	Count	Annual Benefits	Count	Annual Benefits*	Count	Count
2024	**1,096**	**379**	**562**	**$14,827,434**	**7,557**	**$266,230,974**	**90**	**9,684**
Change in Pay/Pensions	N/A	N/A	N/A	93,187	N/A	3,077,366	N/A	
Rehired (Not Vested)	1	-			(1)	(14,913)		-
Rehired (Vested)	2	(2)	-	-	-	-	-	-
New Beneficiary					100	3,286,862	-	100
DROP	(10)	-	12	250,573				2
Retired	(28)	(13)	(66)	(1,955,487)	136	3,262,294	-	29
Non-Duty Disabled	-				-	-	-	-
Duty Disabled	-				1	53,691	-	1
Death/Off		(21)	-	-	(297)	(10,200,323)	(1)	(319)
Vested Term	-	-						-
Non-Vested Terminated	(62)							(62)
Data Adjustment	(1)	17	-	-	1	-	-	17
2025	**998**	**360**	**508**	**$13,215,708**	**7,497**	**$265,695,951**	**89**	**9,452**

* *Excluding annuities. Before application of July 1, 2025 COLA/VPIF (if any).*

Notable Data Changes:

29 new retirees came from nowhere. We believe some of these are a result of new EDRO's.

The data adjustments relate to records where we could not specifically identify the activity during the year. 21 Terminated Vested members were valued last year but will not be valued this year. This, in effect, is assuming that these members refunded and forfeited their defined benefit. Similarly, 17 new Terminated Vested members were valued this year but not in last year's data file.

Data Approximations and Assumptions

As part of our review of the data received from the System, we discussed questionable or missing data with System staff and developed approximations and assumptions in order to perform the valuation. We provided System staff with a letter dated December 16, 2025 with additional information regarding data reconciliation, processing instructions, and assumptions regarding unresolved issues. Note, that letter disclosed our remaining data processing procedures and assumptions and details our reconciliation and final valuation data. System staff has approved the detail and final data disclosed in that letter.

The purpose of this section in this report is to summarize any unresolved concerns about questionable data that are relevant and could have a significant effect on the valuation as disclosed in that letter. This summary also discusses any significant steps we have taken to improve the data due to identifying questionable data values or relationships, significant judgments, or assumptions we have applied to the data.

Active

In prior years, records with reported date of hire after June 30, 2014 were removed from the Legacy active rolls. For the 2025 valuation, only members with no reported Legacy service were removed.

For active members, frozen AFC amounts and frozen service as of June 30, 2014 was reported in the June 30, 2025 census data. For purposes of this valuation, the reported frozen AFCs were used for determining a member's Legacy benefit. Records where the frozen AFC as reported was not provided or appeared unreasonably low (less than $1,000), $52,000 was used (the average frozen AFC of the active membership as of June 30, 2025).

Eligibility for 20 & Out was determined by using the class code in 2014 as provided in the current data set.

Deferred Vested

As part of the processing of deferred member data, in cases where the reported frozen AFC was not provided or appeared unreasonably low (less than $1,000), $52,000 was used. Members with vesting service of less than 8 years (Legacy plus Hybrid) were assumed to be non-vested and were not valued.

Data Approximations and Assumptions

Retired Members, Beneficiaries and DROP Members

This year's retiree data included 2 police records were reported with no current pension or paid annuity and are being excluded from the valuation.

This year's retiree data, 3 fire records were reported with no current pension or paid annuity and are being excluded from the valuation.

For members reported with a missing revenue group identifier, the retirement plan was used.

Other Adjustment assumptions include:

- In cases where the benefit is identified to be a joint and survivor benefit and a beneficiary is not listed in the data, it was assumed that male spouses were 3 years older than females;
- Benefits for dependent children are assumed to cease at age 21; and
- For non-converted duty disability members:
    - Converted benefits are assumed to commence at age 65;
    - For disabilities prior to 2014, converted benefits were estimated using 25 years of service and the multiplier in effect for the member. For disabilities after 2014, converted benefits were estimated using service as of June 30, 2014 and the multiplier in effect for the member; and
    - At 25 years of service, disability benefits are assumed to equal 50% of final compensation.

These procedures were established beginning with the 2021 valuation.

Comparison of Valued Benefits with Actual Payments

	Retirees and Beneficiaries[#]	DROP*	Post-2014 Pre-Conversion Duty Disability	Total	Benefits Paid FYE 2025
Count	7,497	508	89	8,094	
Annual Benefits ($ millions)	266.0	11.2	-	277.2	279.8

[#] *Including annuities. Before application of July 1, 2025 COLA/VPIF (if any).*
** Includes reduction for 85% of benefit payable during the DROP.*

The above comparison is intended to assess the reasonableness of the member data by comparing the annualized benefit amounts in the member data to the actual payments made during the fiscal year. The above benefits paid for FYE 2025 excludes the $5,000,000 one-time supplemental checks paid to retirees. We find this difference to be within a reasonable range and will use the data supplied.

Comparative Statement of Active Members and Valuation Payroll

June 30	No. of Members: 1969 Plan	No. of Members: Pre-1969	No. of Members: Total	% Change	Ratio of Active to Retired	Annual Payroll	Average Pay: $	Average Pay: Change
2001	5,453	132	5,585	2%	0.7	$ 253,297,027	$ 45,353	4.6%
2002	5,290	92	5,382	-4%	0.7	248,663,133	46,203	1.9%
2003	5,181	76	5,257	-2%	0.6	248,681,461	47,305	2.4%
2004	5,007	53	5,060	-4%	0.6	258,699,581	51,126	8.1%
2005	4,768	31	4,799	-5%	0.6	250,491,872	52,197	2.1%
2006	4,298	14	4,312	-10%	0.5	228,140,160	52,908	1.4%
2007	4,204	8	4,212	-2%	0.5	230,173,964	54,647	3.3%
2008	4,071	7	4,078	-3%	0.5	232,812,606	57,090	4.5%
2009	4,030	7	4,037	-1%	0.5	231,795,528	57,418	0.6%
2010	3,985	7	3,992	-1%	0.5	228,829,999	57,322	-0.2%
2011	3,809	7	3,816	-4%	0.5	220,461,691	57,773	0.8%
2012	3,580	7	3,587	-6%	0.4	205,800,278	57,374	-0.7%
2013[1]	3,260	6	3,266	-9%	0.4	186,694,166	57,163	-0.4%
2014[2]	2,608	0	2,608	-20%	0.3			
2015	2,386	0	2,386	-9%	0.3			
2016	2,205	0	2,205	-8%	0.3			
2017	1,914	0	1,914	-13%	0.2			
2018	1,752	0	1,752	-8%	0.2			
2019	1,551	0	1,551	-11%	0.2			
2020	1,369	0	1,369	-12%	0.2			
2021	1,234	0	1,234	-10%	0.2			
2022	1,149	0	1,149	-7%	0.1			
2023	1,097	0	1,097	-5%	0.1			
2024	1,096	0	1,096	0%	0.1			
2025	998	0	998	-9%	0.1			

[1] *Payroll used was the greater of the payroll reported for the current and prior fiscal years.*
[2] *Post Bankruptcy.*

Prior to 2014, DROP members are included.

Comparative Statement of Annual Retirement Allowances Being Paid to Retirees and Beneficiaries (Excluding DROP Members)

	No. Retired		% of Current Allowances			Current Allowances		Allowances as a % of
June 30	Pre-69	Total	Annuities	Pensions	COLAs	Total	Average	Payroll
2001	4,394	8,166	0.6%	67.4%	32.0%	$ 180,239,652	$ 22,072	71%
2002	4,229	8,179	0.5%	68.4%	31.1%	185,658,396	22,699	75%
2003	4,104	8,277	0.5%	69.8%	29.7%	191,634,636	23,153	77%
2004	3,961	8,328	0.4%	68.5%	31.1%	203,083,524	24,386	79%
2005	3,791	8,376	0.4%	69.5%	30.1%	211,114,020	25,205	84%
2006	3,666	8,550	0.4%	70.9%	28.7%	222,357,372	26,007	97%
2007	3,501	8,498	0.3%	70.6%	29.1%	227,671,788	26,791	99%
2008	3,318	8,442	0.3%	70.0%	29.7%	234,223,368	27,745	101%
2009	3,168	8,424	0.3%	70.1%	29.6%	240,094,968	28,501	104%
2010	3,035	8,356	0.3%	70.3%	29.4%	243,688,596	29,163	106%
2011	2,861	8,379	0.2%	71.6%	28.2%	250,376,700	29,881	114%
2012	2,723	8,451	0.2%	72.2%	27.6%	258,660,084	30,607	126%
2013	2,544	8,476	0.2%	72.9%	26.9%	266,438,460	31,434	143%
2014[1]	2,362	8,395	0.2%	73.5%	26.3%	269,579,544	32,112	
2015	2,185	8,279	0.2%	74.2%	25.6%	266,597,448	32,202	
2016	2,040	8,204	0.2%	74.3%	25.5%	267,432,588	32,598	
2017	1,915	8,187	0.1%	74.3%	25.6%	270,114,360	32,993	
2018	1,795	8,151	0.1%	74.2%	25.7%	271,526,640	33,312	
2019	1,675	8,102	0.1%	73.9%	26.0%	272,882,712	33,681	
2020	1,498	7,960	0.1%	74.2%	25.7%	271,333,872	34,087	
2021	1,380	7,904	0.1%	73.9%	26.0%	268,672,308	33,992	
2022	1,253	7,804	0.1%	74.1%	25.8%	266,242,190	34,116	
2023	1,164	7,710	0.1%	72.7%	27.2%	269,639,394	34,973	
2024	1,085	7,647	0.1%	73.7%	26.2%	266,230,974	34,815	
2025	985	7,586	0.1%	71.9%	28.0%	265,695,955	35,025	

[1] *Post Bankruptcy.*

Schedule of Employer Contributions

Fiscal Year Ended June 30	Reported Employer Contributions	
	From Pension Obligation Certificates (POCs)	Employer Contributions Other than from POCs
2001		$ 14,443,382
2002		8,449,645
2003		66,843,029
2004		69,475,202
2005	$ 630,829,189	51,602,596
2006[1]		57,766,542
2007		57,423,366
2008		33,934,636
2009[2]		36,151,057
2010		32,808,485
2011		81,642,112
2012[2]		49,760,229
2013		0
2014		0
2015		114,300,000
2016		37,787,744
2017		18,300,000
2018		18,300,000
2019		18,300,000
2020		18,300,000
2021		18,300,000
2022		18,300,000
2023		18,300,000
2024		89,100,000
2025[3]		92,400,000

[1] 2006 assets were revised following the 6/30/2006 valuation.
[2] Contribution receivable.
[3] Includes $5,000,000 contribution from the City to finance one-time supplemental checks paid to retirees.

APPENDIX I – ASSUMPTIONS AND GLOSSARY

Summary of Assumptions Used for PFRS Actuarial Valuation
Assumptions Adopted by Board of Trustees
After Consulting with Actuary

Assumption Review

All assumptions are estimates of future experience except as noted. If the rationale for the assumptions is based on experience studies, it is noted.

Economic Assumptions

The investment return rate used in the valuation was 6.75% per year, compounded annually (net of investment expenses). This assumption is set by the Board.

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumption we assumed price inflation of 2.50% per year. A detailed rationale is included in the 2015-2020 Experience Study.

Non-Economic Assumptions

The mortality table used to measure healthy retired life mortality is the PubS-2010 Public Safety Retiree table for males and females with male rates multiplied by 115% and female rates multiplied by 125%. The mortality table used to measure disabled retired life mortality is the PubS-2010 Public Safety Disabled Retiree table for males and females with male rates multiplied by 114%. The mortality table used to measure pre-retirement life mortality is the PubS-2010 Public Safety Employee table for males and females with 50% of deaths assumed to be duty related. The tables are projected to be fully generational, based on the two-dimensional, sex distinct mortality improvement scale MP-2021. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

The probabilities of age/service retirement for members eligible to retire are shown on the pages that follow. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

The probabilities of separation from service (including *death-in-service*) are shown for sample ages on the pages that follow. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Funding Methods

The unit credit cost method was used in determining liabilities and normal cost. Under this method, there is no normal cost since benefits are frozen and there are no future accruals and Actuarial Accrued Liability is the present value of each individual's accrued benefit.

Single Life Retirement Values
Based on PubS-2010
for Males and Females

Sample Attained Ages in 2025	Future Life Expectancy (Years)	
	Males	Females
45	39.61	40.96
50	34.50	35.77
55	29.47	30.70
60	24.62	25.84
65	20.06	21.27
70	15.84	16.99
75	12.02	13.06
80	8.70	9.62

Probabilities of Service Retirement or Entering DROP

Age	Percent of Eligible Active Members Retiring or Entering DROP Within Next Year	
	Police	Fire
35	20%	15%
36	20%	15%
37	20%	15%
38	20%	15%
39	20%	15%
40	20%	15%
41	20%	15%
42	20%	15%
43	20%	15%
44	20%	15%
45	20%	15%
46	20%	15%
47	20%	15%
48	20%	15%
49	20%	15%
50	30%	20%
51	30%	20%
52	30%	20%
53	30%	20%
54	30%	20%
55	30%	20%
56	30%	20%
57	30%	20%
58	30%	20%
59	30%	20%
60	30%	100%
61	30%	100%
62	30%	100%
63	30%	100%
64	30%	100%
65	100%	100%

Police members eligible for retirement under 20 & Out with at least 10 years of Component II (Legacy) benefit service are assumed to retire or enter DROP while eligible for Component II (Legacy) normal retirement. These members are assumed to have a 40% probability of retiring or entering DROP during the first year of eligibility. All other members are assumed to retire or enter DROP while eligible for Component I (Hybrid) normal retirement only. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Starting with the June 30, 2024 actuarial valuation, for members hired before July 1, 2014 and active on June 30, 2024, members are now eligible to retire upon attaining 25 or more years of Credited Service (including prior service) regardless of age. We have modified the assumption for incidence of normal retirement to include retirement probabilities for Fire members at earlier ages in order to recognize that the age requirement would be removed from normal retirement eligibility.

Probabilities of Separation

Sample Ages	Years of Service	% of Active Members Withdrawing within Next Year	
		Police	Fire
ALL	0	11.00%	5.00%
	1	9.00%	3.00%
	2	7.50%	3.00%
	3	6.25%	2.50%
	4	5.50%	2.50%
25	5 & Over	5.50%	2.50%
30		4.95%	2.50%
35		3.45%	2.50%
40		2.55%	2.50%
45		2.25%	2.50%
50		1.65%	2.50%
55		1.20%	2.50%
60		1.20%	2.50%
Ref		1400	1401
		1605	1606 x 1

The withdrawal rates for members with less than 5 years of service are shown for completeness. Given the demographics of this closed group, there is likely no one being exposed to the rates. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Ordinary	Duty
25	0.05%	0.28%
30	0.05%	0.28%
35	0.08%	0.48%
40	0.11%	0.62%
45	0.16%	0.89%
50	0.21%	1.17%
55	0.21%	1.17%
60	0.21%	1.17%
Ref	1237 x 0.15	1237 x 0.85

Miscellaneous and Technical Assumptions
June 30, 2025

Administrative Expenses:	Estimated administrative expenses of 0.81% of expected benefit payments are included in the determination of employer contributions.
Annuity Savings Fund (ASF) Interest Credits:	For purposes of calculating future refunds of member contributions, the ASF is assumed to earn 4.25% interest in all future years. Balances for active members are assumed to be paid out at time of termination (in addition to their respective pension reduced for the annuity portion). Total ASF balances for all non-active members (net of reported member contributions for pre-conversion inactives and disability retirees) are assumed to be paid out of the System uniformly over the next 10 years.
Average Final Compensation (AFC):	Frozen AFC is reported in the data provided for the annual valuation. Longevity payments and Sick Leave are included directly in the reported frozen AFC. We annually test the reported AFC against a sample set of retirees to determine if any additional adjustments should be made to the liability. No additional adjustment was made for this report.
Class Codes / Bargaining Unit:	For valuation purposes, members are categorized as DPOA, DFFA or LSA based on class codes and bargaining units provided by the Retirement System and are primarily used in the valuation to determine normal retirement eligibility (20 & Out versus 25 & Out) and allowable time in the DROP. For determining allowable time in the DROP, information as of the valuation date was used. Therefore, counts in the valuation may not represent actual membership in the respective associations.
Data Adjustments:	Assumptions regarding incomplete or missing data are reviewed annually with the System and adjusted as directed by the System.

Miscellaneous and Technical Assumptions
June 30, 2025

Decrement Operation:	Ordinary disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing:	Decrements are assumed to occur mid-year.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Deferred Vested Benefit Commencement Age:	Members are assumed to commence benefits at the age in which they are first eligible for unreduced benefits.
Disability Change Age:	For active members that become duty disabled, the Component II (Legacy) plan is assumed to only be responsible for the frozen benefit which becomes payable starting at age 65.
DROP Assumption:	Members are assumed to retire or DROP based on assumed rates. For Police members eligible for a maximum DROP period of 10 years, 85% of eligible members are assumed to enter the DROP and remain in the DROP for seven years. For Police members eligible for a maximum DROP period of 15 years, 85% of eligible members are assumed to enter the DROP and remain in the DROP for nine years. For Fire members, 60% of eligible members are assumed to enter the DROP and remain in the DROP for five years. Expected benefits paid into DROP contributions are discounted at the assumed rate of return for valuation purposes. Balances for current DROP participants are held outside of system assets and are excluded from the valuation.
DROP Cost Neutrality:	An assessment of the cost neutrality of the DROP was outside the scope of this valuation.
Duty Death Benefit:	For current active members, the duty death pension benefit is assumed to be payable entirely by the Component I (Hybrid) plan. It was assumed that the Component II (Legacy) plan would only be responsible for the refund of member contributions.

Miscellaneous and Technical Assumptions
June 30, 2025

Duty Disability Benefits:	The Police and Fire Retirement System Combined Plan provides disability benefits for both Component I (Hybrid) and Component II (Legacy) members. Our understanding of the Component II (Legacy) freeze as it relates to duty disability benefits was that the only benefit payable from Component II (Legacy) would be the frozen accrued benefit, payable at the time of conversion to normal retirement (for members becoming disabled after 6/30/2014) and that any benefits payable during the period of disability would be paid from Component I (Hybrid). We have valued the pre-conversion duty disability benefit in a manner consistent with the plan provision (paid out of Component I (Hybrid)). We understand that the System is in the process of moving to a new data system and expect this issue to be corrected once the new data system is in place. For current duty disability retirees that became disabled after June 30, 2014, we have estimated the amount that will be paid by Component I (Hybrid) and Component II (Legacy) upon conversion. For future retirees, duty disability retirement benefits prior to age 65 are assumed to be paid from Component I (Hybrid).
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date of decrement.
Forfeiture Assumption:	It is assumed that 0% of members will elect to forfeit their benefit.
Form of Payment:	The actuarial equivalent basis for optional forms of payment and early retirement are based on the RP-2014 Mortality Table with Blue Collar adjustments projected 11 years, a 6.75% interest rate, 90%/10% unisex mix and a 1.0125% COLA assumption per System Policy. Annuity withdrawal factors use the same mortality and interest rate assumptions with a 0% COLA assumption. No adjustment has been made for alternate forms of payment elections. Principal balances of accumulated member contributions were converted to life annuity offsets based on plan factors for the valuation.
Incidence of Contributions:	Employer contributions are assumed to be received in equal quarterly installments on the last day of each quarter of the fiscal year.
IRC Section 401(h) Limit:	We did not test for the 401(h) limit on employer contributions for medical benefits. No employer contributions are anticipated in this valuation.
IRC Section 415 Limit:	We assumed that no benefits will be limited by IRC Section 415. The limit is assumed to grow with wage inflation.

Miscellaneous and Technical Assumptions
June 30, 2025

Mandatory Retirement Age:	Currently most members of the DPFRS are subject to a mandatory retirement age of 60. We have assumed employment would end at age 60 for Fire members regardless of the length of their DROP participation at that age. We understand that the mandatory retirement age is currently not enforced for Police members and have assumed the mandatory retirement age is not in effect for Police members.
Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. This assumption accounts for potential dependent children/dependent parent death benefits. No other assumption is made for surviving children/dependent parents. Male spouses are assumed to be three years older than female spouses.
New Entrant Assumption:	No assumption is made for experience related to members rehiring/reentering active service.
Pay Increase Timing:	N/A for Component II (Legacy).
Pop-Up Benefits:	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 1%.
Post-Retirement COLA / Variable Pension Improvement Factor (VPIF):	**Pre-69 Members:** Members are assumed to receive a 3.0% COLA. **Post-69 Members:** Active members are assumed to receive a 0.9% COLA rather than 1.0125% because the annuity portion is not subject to the COLA. Post-retirement increases for retired members were based on the plan in effect at retirement. For the pre-69 plan members, future COLA's are assumed to be the same as wage inflation for active members (not reduced in POA). For other members retiring before 2014, the COLA rate is prorated by the ratio of COLA eligible service to total service at retirement before applying the POA mandated reduction to 1.0125%. The service ratio is provided on the data file.
Service Credit Accruals:	Service accruals for calculating benefits end as of June 30, 2014 for Component II (Legacy) and begin as of June 30, 2014 for Component I (Hybrid). However, service in Component I (Hybrid) and Component II (Legacy) may be used to satisfy benefit eligibility requirements in both plans.
Workers Compensation Offset:	No Workers Compensation offsets are assumed for duty disability benefits.

The rationale for the miscellaneous and technical assumptions is the 2015-2020 Experience Study, modified as necessary for changes in data or administration.

Glossary

Accrued Service	The service credited under the plan which was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
Actuarial Assumptions	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
Actuarial Cost Method	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.
Actuarially Determined Employer Contribution	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's actuarial funding policy.
Actuarial Equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV)	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
Actuarial Present Value of Future Benefits (APVFB)	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Funding Value of Assets, and related Actuarial Present Values for a plan.

Glossary

AFC	Average Final Compensation.
Amortization Method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase. Under the Level Principal method, the Amortization Payment is one of a stream of decreasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Principal method, the principal payment remains constant, while the interest portion is reduced over time.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
ARF	Annuity Reserve Fund.
ASF	Annuity Savings Fund of the Component II (Legacy) Plan.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
COLA	Cost-of-Living Adjustment.
Contribution Budgeting Liability	An expected return-based measure of pension obligation.
DFFA	Detroit Fire Fighters Association.
DPCOA	Detroit Police Command Officers Association.
DPLSA	Detroit Police Lieutenants and Sergeants Association.
DPOA	Detroit Police Officers Association.
DROP	Deferred Retirement Option Program.
Duration	An approximate measure of sensitivity to changes in interest rates.

Glossary

Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
Experience Gain/Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
Funded Ratio	The ratio of the Funding Value of Assets to the Actuarial Accrued Liability.
Funding Value of Assets (FVA)	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined employer contribution (ADEC).
FY	Fiscal Year.
GASB	Governmental Accounting Standards Board.
GASB Statement No. 67 and GASB Statement No. 28	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. GASB Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while GASB Statement No. 67 sets the rules for the systems themselves.
MVA	Market Value Assets.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

Glossary

Open Amortization Period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
PAF	Pension Accumulation Fund.
POA	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
Reserve Account	An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.
Solvency Liability	A market-based measurement of the pension obligations.
Transition Cost	Initial unfunded liability as described in Section E-16 of the Plan document.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Funding Value of Assets.
Valuation Date	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.
VPIF	Variable Pension Improvement Factor. Discussed in Section 6.2 of the Plan Document.

APPENDIX II – FUNDING POLICY

Police and Fire Retirement System of the City of Detroit
Actuarial Funding Policy

Introduction

The purpose of this Actuarial Funding Policy is to record the funding objectives and policy set by the Board of Trustees (Board) for the Police and Fire Retirement System of the City of Detroit (the System). The Board establishes this Actuarial Funding Policy to help ensure the systematic funding of future benefit payments for members of the Plan.

In 2014, the Plan for the System was written and approved by the bankruptcy court as part of the City's Plan of Adjustment (POA). At that time, the original retirement plan was split into two Retirement Plans: Component I (Hybrid) and Component II (Legacy). In accordance with the POA, employer contributions and certain assumptions cannot be changed until fiscal year 2024. This Policy is intended to recognize those items as fixed until 2024 and establish a funding policy for the period beginning in fiscal year 2024, when employer contributions must be determined on an actuarial basis. Nothing in this Policy is intended to prevent the Board from altering the Policy prior to fiscal year 2024 as conditions change or additional information becomes available to the Board.

This Policy shall be regularly reviewed by the Board.

Funding Objectives

1. Provide benefit security to members of the System:
    a. For purposes of this policy, benefit security means having adequate liquidity to pay benefits when due.
2. Establish an appropriate employer contribution based on the following objectives:
    a. Fully funding the Legacy Plan liability no later than 2054;
    b. Keeping the Hybrid Plan fully funded; and
    c. Managing employer contribution volatility.
3. Provide a reasonable margin for adverse experience to help offset risks.
4. Measure and monitor funding status, post-2024 contribution estimates and risk.
    a. Perform annual valuations; and
    b. Include post-2024 contribution estimates (based on this Policy) in annual actuarial valuations.

The Plans will have annual actuarial valuations each June 30. Employer contributions will be determined for the fiscal year ending two years after the valuation date. For example, the actuarially determined employer contribution for the fiscal year ending June 30, 2025 will be determined by the June 30, 2023 annual actuarial valuation.

Annual actuarial valuations may or may not also serve other purposes such as Legacy Plan restoration, Hybrid plan Section 9.5 fiscal responsibility calculations, and/or Annuity Savings Fund excess interest transfers between components. Unless otherwise stated, those purposes are not subject to this Policy.

For all other funding purposes, annual actuarial valuations will include the following elements of the Actuarial Funding Policy:

1. **Actuarial Cost Method**

   a. Hybrid Plan: The Entry Age actuarial cost method shall be used in determining the Actuarial Accrued Liability (AAL) and Normal Cost with the entry age based on date of hire. Since this component was created in July 2014 and granted eligibility and vesting service prior to July 2014 (for members hired before that date), this Plan had an unfunded actuarial accrued liability on the effective date, known as the transition cost. As of June 30, 2017, the AAL (including the transition cost) in the Hybrid Plan was fully funded. This Plan could become less than fully funded in the future if experience is less favorable than assumed or there are changes in assumptions or Plan provisions.

   b. Legacy Plan: The Unit Credit Normal actuarial cost method shall be used in determining Actuarial Accrued Liability (AAL) and Normal Cost. Since this component is closed and accrued benefits are frozen as of June 30, 2014, this method results in no normal costs and an AAL that equals the Present Value of Accrued Benefits (PVAB) of each member.

2. **Asset Smoothing Method**

   a. For estimating contributions prior to June 30, 2023, the Funding Value of Assets (or actuarial value of assets) will be equal to the Market Value of Assets, as mandated by the Plan of Adjustment. For determining (or estimating) employer contributions on or after fiscal year 2024, the Funding Value of Assets will be based on a method that employs smoothing of market gains and losses over a closed period. The smoothing period for recognized market gains and losses (above or below the assumed rate of return) will be a 3-year period.

   b. The Funding Value of Assets shall not diverge from the Market Value of Assets by more than 15%.

   c. The annual actuarial valuation will calculate results on both the smoothed value of assets and the (non-smoothed) Market Value of Assets beginning with the June 30, 2019 valuation (the Funding Value of Assets will initially be set to the Market Value of Assets as of June 30, 2018 with smoothing beginning prospectively). The post-2024 contribution estimate will always be based on the smoothed value of assets. Other results (UAAL, Funded Status, etc.) will be based on the Market Value of Assets prior to 2024 and the smoothed value of assets after 2023. Upon consultation with the Actuary, the Funding Value of Assets may be reset to the Market Value of Assets.

3. Amortization Method

a. Hybrid Plan

a) A Level Percent of Payroll amortization method shall be used to systematically eliminate (pay off) the Unfunded Actuarial Accrued Liability (UAAL) over a closed 15-year period from the later of July 1, 2023 or the applicable fiscal year after the funded status falls below 100%.

b) If funded status is above 100%, the contribution requirements for the UAAL will be $0 (thereby creating a minimum employer contribution of employer normal cost).

c) Layered amortizations will be considered by the Board post-2024.

b. Legacy Plan

a) The **Level Dollar** amortization method shall be used to systematically eliminate (pay off) the Unfunded Actuarial Accrued Liability (UAAL) over a closed period of **20 years** from July 1, 2023 for the UAAL as of July 30, 2022 (projected to July 1, 2023), and

b) **Layered amortizations** that use **20-year** closed periods for gains and losses occurring after June 30, 2022 (each **20-year** period starts with the first payment after the applicable gain or loss occurs).

4. Funding Target and Cash Flow Projections

a. The targeted funded ratio shall be 100%.

b. The Legacy Plan annual actuarial valuation shall include projections of estimated employer contributions, expected benefit payments and estimated funded status to the later of fiscal year 2054 or 30 years after the applicable employer contribution fiscal year.

c. Section 9.5 of the Plan details the actions to be taken if the 5-year projected funded status falls below 90% (Hybrid Plan, only).

5. Risk Management

a. Assumption Changes

a) The actuarial assumptions used shall be those last adopted by the Board based on the most recent experience study and upon the advice and recommendation of the actuary. In accordance with the City Ordinance, the actuary shall conduct an experience study at least every five years. The results of the study shall be the basis for the actuarial assumption changes recommended to the Board. However, the assumed rate of return and the actuarial value of assets are mandated by the City's POA and cannot be changed prior to June 30, 2023.

b) The actuarial assumptions may be updated at any time, as advised by the actuary, if significant Plan design changes or other significant events occur.

c) The next experience study will be performed after the 2020 actuarial valuation and will include both economic (investment return, inflation, etc.) and demographic (mortality, retirement, disability, etc.) assumptions. Even though the investment rate of return may not be changed for determining employer contributions until after June 30, 2023, the Board may elect to show valuation results under an alternative reasonable assumed rate of investment return prior to 2023.

b. Risk Measures

a) Risk measures will be included in the annual actuarial valuations. Below is a list of potential measures to be included. The measures may be changed over time as deemed appropriate.

(i) Classic measures currently determined

- Funded ratio (assets / liability) on both a market value and funding value (if funding value is not equal to market).
- UAAL amortization period (years required to pay down the UAAL based on current funding rates).
- Portfolio rate of return for the year on both the market value and funding value of assets.
- 5- and 10-year geometric average portfolio rate of return on both the market value and funding value of assets (developed prospectively beginning with the 2019 valuation).
- 5- and 10-year standard deviation of return on both the market value and funding value of assets (developed prospectively beginning with the 2019 valuation).

(ii) Duration of the Actuarial Accrued Liability

- Measures the sensitivity of the liability to a 1% change in assumed rate of return. A decrease in this measure indicates a decrease in assumed rate sensitivity and vice versa.

(iii) Total UAAL / Covered Payroll

- Measures the risk associated with contribution rates relative to the impact on the ability to fund the UAAL. A decrease in this measure indicates a decrease in UAAL contribution risk and vice versa.
- Consideration will be given to using total payroll or revenue source, if available.

(iv) Total Assets / Covered Payroll

- Measures the risk associated with the potential impact of asset experience on contributions. A decrease in this measure indicates a decrease in asset risk and vice versa.
- Consideration will be given to using total payroll or revenue source, if available.

(v) Total AAL / Covered Payroll

- Measures the risk associated with the potential impact of liability experience on contributions. A decrease in this measure indicates a decrease in experience risk and vice versa. This also provides a long-term measure of the asset risk where the System has a target funded ratio of 100%.
- Consideration will be given to using total payroll or revenue source, if available.

(vi) Non-Investment Cash flow / Beginning of year assets

- Measures depletion risk, sensitivity to annual investment gains and losses risk and the maturity of the plan. For a mature open plan, this may converge to the negative of the real rate of return assumption (investment return less wage inflation). A less negative number (or a positive number) indicates a less mature plan and/or a plan that is at lower risk of fund depletion and less sensitive to annual gains and losses. A more negative number indicates a more mature plan and/or a plan that is more at risk of fund depletion and more sensitive to annual gains and losses. For a super-mature closed plan such as the Legacy plan, this may become more negative over time as liquidity needs increase.

(vii) Market Value of Assets / Benefit Payments

- Measure depletion risk. A low value estimates the number of years to depletion disregarding future contributions and investment return.

(viii) Solvency Liability

- Measures the estimated cost of accrued benefits as a result of minimizing investment risk in the portfolio.

b) Risk Control: The Board shall carefully monitor the risk measures above and shall consider steps to mitigate risk, particularly as the Legacy Plan funded ratio increases. Examples of risk mitigating techniques include, but are not limited to:

(i) Reviewing investment risk in accordance with the Board's Investment Policy.

(ii) Adding provisions for adverse deviation in the actuarial assumptions.

(iii) Increasing employer contributions (through a change in methods, assumptions, or amortization period).

(iv) Other.

Glossary

1. **Actuarial Accrued Liability (AAL):** The difference between (i) the actuarial present value of future plan benefits; and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."
2. **Actuarial Assumptions:** Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
3. **Actuarial Cost Method:** A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
4. **Actuarial Gain (Loss):** A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used. For example, if during a given year the assets earn more than the investment return assumption, the amount of earnings above the assumption will cause an unexpected reduction in UAAL, or "actuarial gain" as of the next valuation. These include contribution gains and losses that result from actual contributions made being greater or less than the level determined under the policy.
5. **Actuary:** A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries (MAAA). The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation ASA and ultimately to Fellowship with the designation FSA.
6. **Amortization:** Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
7. **Unit Credit Normal Actuarial Cost Method:** A funding method that calculates the Normal Cost as the present value of the change in accrued benefits for active members.
8. **Experience Study:** An actuarial investigation of demographic and economic experiences of the system during the period studied. The investigation was made for the purpose of updating the actuarial assumptions used in valuing the actuarial liabilities.
9. **Funding Value of Assets**: The value of current plan assets recognized for valuation purposes. Generally based on a phased-in recognition of all or a portion of market related investment return. Sometimes referred to as Actuarial Value of Assets or Smoothed value of Assets.
10. **Market Value of Assets:** The fair value of plan assets as reported in the plan's audited financial statements.
11. **Normal Cost (NC):** The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.
12. **Unfunded Actuarial Accrued Liability (UAAL):** The positive difference, if any, between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."