



## Administrative Committee Meeting Agenda

Wednesday, December 18, 2024

10:45A.M.

(or immediately following the Claims Committee)

- I. Retiree Representative Board Election Schedule  
*(Intended Outcome – Approval)*
- II. Actuarial Reports for MHSPRS, SLRP, and MRS  
*(Intended Outcome-Approval)*
- III. PERS Funding Policy Revisions  
*(Intended Outcome-Approval)*
- IV. Other

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**Administrative  
Committee Members:**

Mr. Bill Benson, *Committee Chair*  
Mr. Chris Graham  
Dr. Jay Smith  
State Treasurer David McRae

Mr. Kelly Breland, *Board Chair*

**PERS Board Election Schedule  
Retiree Representative**

**Term ends 6/30/31**

January 6, 2025	Notice mailed to retirees
February 6, 2025	Deadline for receipt of petitions
February 11, 2025	Deadline for preparation of ballot
<b>February 26, 2025</b>	<b>Board approval of ballot at regularly scheduled meeting</b>
March 12, 2025	Deadline to mail ballots
April 16, 2025	Deadline for receipt of ballots/votes
<b>April 23, 2025</b>	<b>Board approval of election results at regularly scheduled meeting</b>

**Runoff Schedule  
(tentative)**

May 14, 2025	Ballots mailed
June 18, 2025	Deadline for receipts of ballots/votes
<b>June 25, 2025</b>	<b>Board approval of election results at regularly scheduled meeting</b>

# Working Together for You



## Mississippi Valuation and Projection Results as of June 30, 2024



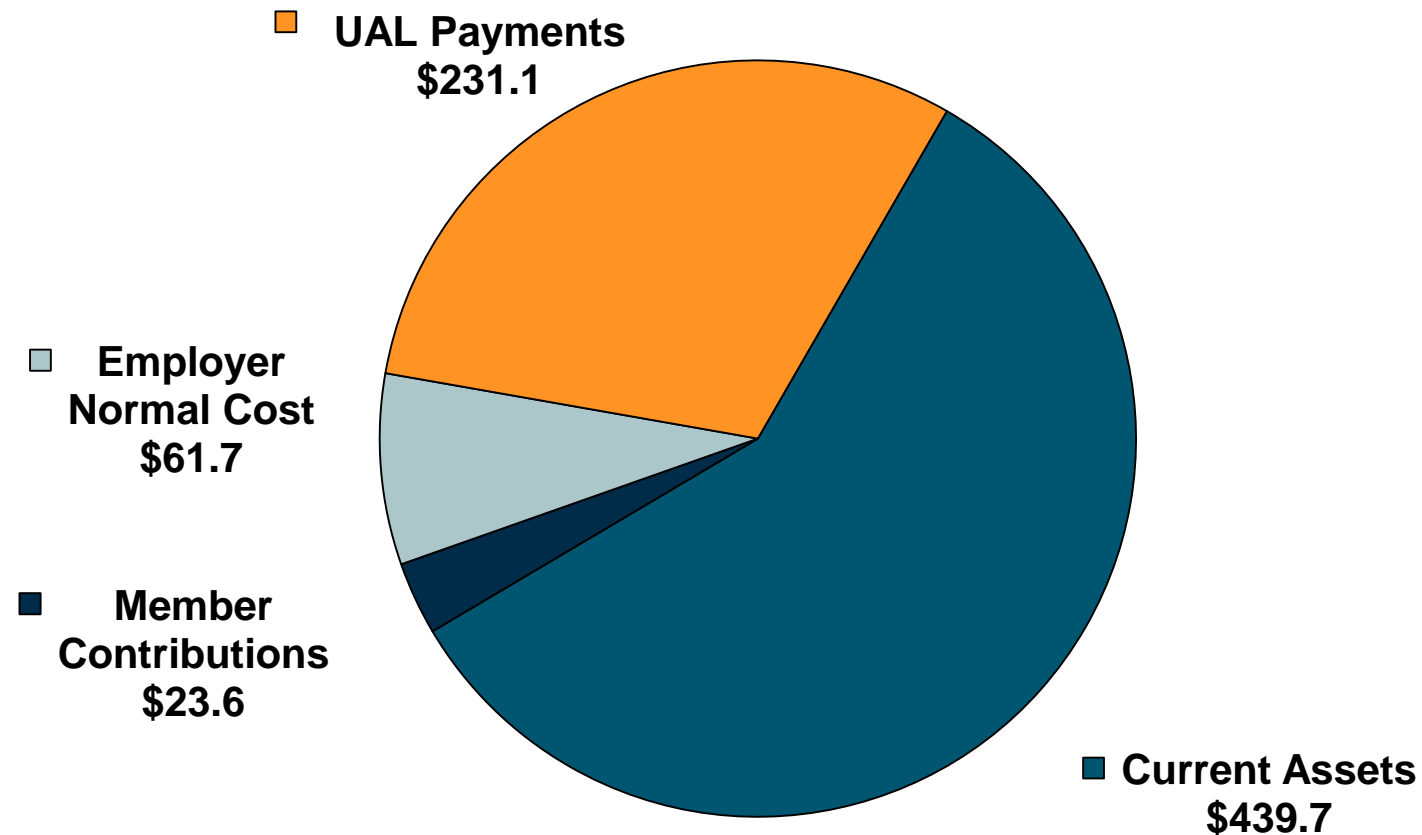
# HSPRS Valuation Results



- **Net Market Value of Return for the 2024 FYE was approximately 10.5%**
  - Last year was around 7.5%
  - On an actuarial value basis, the return was 7.3% (last year was 7.4%) due to 5-year smoothing method
- **Funded Ratio went from 65.4% to 65.5%**
- **Amortization period using current Fixed Contribution Rate (FCR) of 49.08% of payroll is 33.0 years**
  - Last year was 30.6 years
  - Increase mainly due to contribution shortfall representing the difference between the Actuarially Determined Contribution Rate and FCR
- **Projection results show HSPRS to be 80.5% funded in 2047**

# HSPRS Financing of Retirement Benefit Promises

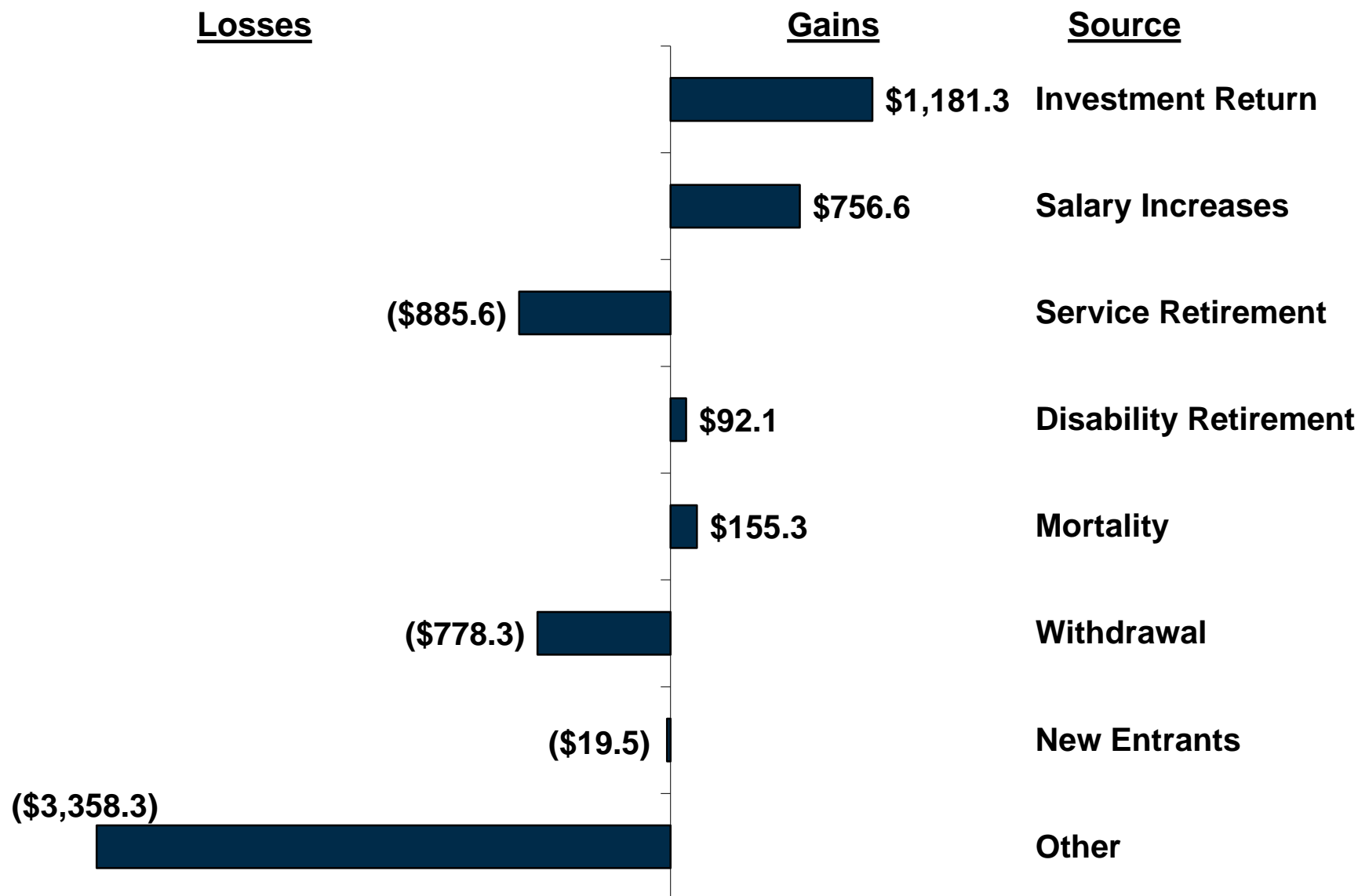
(\$ millions)



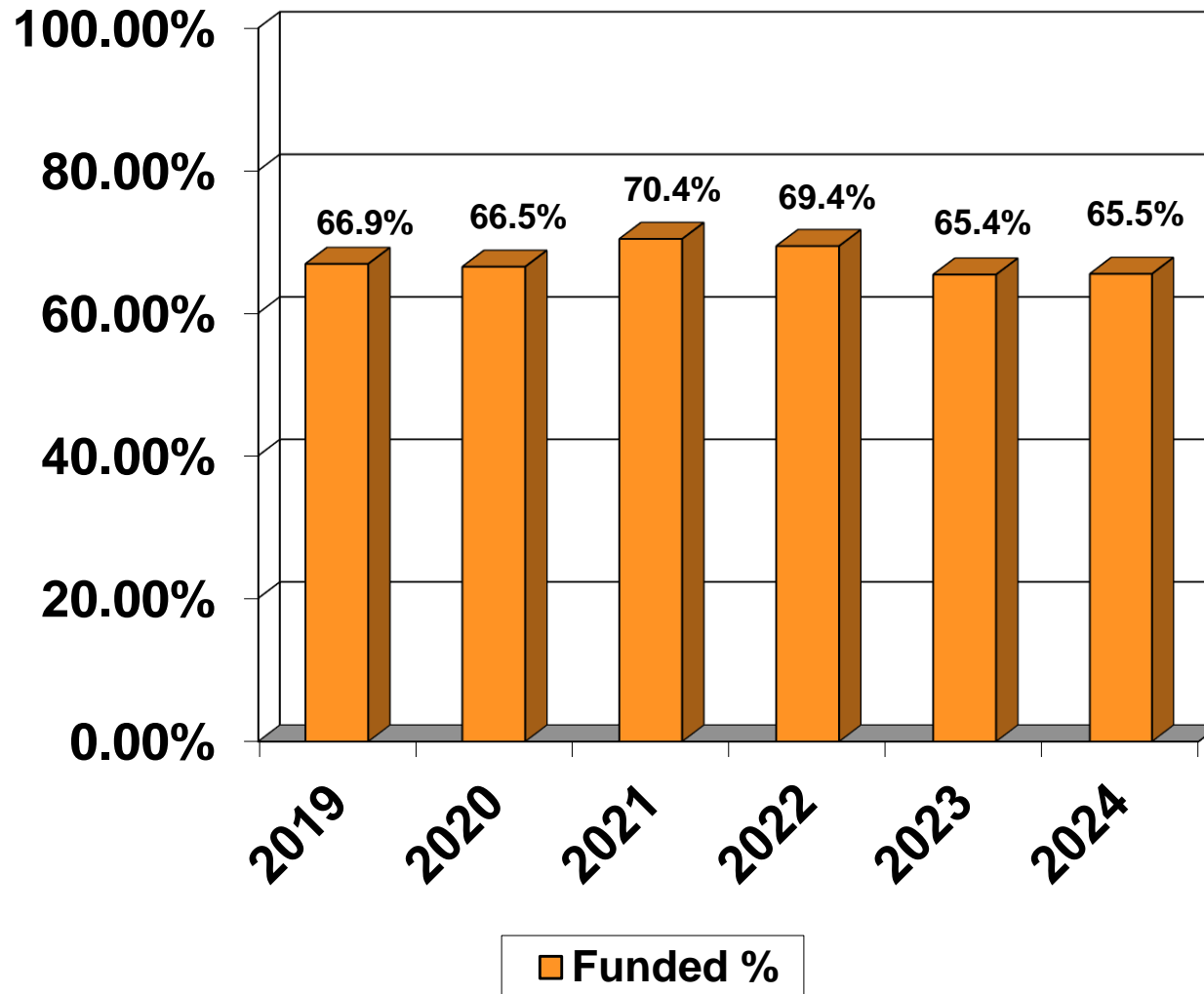
**Total - \$756.1**

# HSPRS Actuarial Gain/Loss Analysis

(\$ thousands)



# HSPRS Funded Ratio





Valuation Year	Member Rate	Employer Rate			Total Rate
		Normal*	UAL**	Total	
2020	7.25%	15.69%	33.39%	49.08%	56.33%
2021	7.25%	16.29%	32.79%	49.08%	56.33%
2022	7.25%	16.06%	33.02%	49.08%	56.33%
2023	7.25%	19.36%	29.72%	49.08%	56.33%
2024	7.25%	19.61%	29.47%	49.08%	56.33%

\* A budgeted administrative expense is included in the normal cost of the fixed contribution rate

\*\* Additional contributions are expected from SB 2659 of 2004 and HB 1015 of 2013

# Actuarially Determined Contribution (ADC) – UAAL Portion

Date Established	Original UAAL Balance	Remaining UAAL Balance	Remaining Amortization Period	Amortization Payment*
June 30, 2023	\$227,309,721	\$227,907,671	24 years	\$15,196,657
June 30, 2024	\$3,181,090	<u>\$3,181,090</u>	25 years	<u>\$207,180</u>
Total		\$231,088,761		\$15,403,837
MVR Fee Reduction				\$(3,300,000)
Total Amortization Payment				\$12,103,837
Estimated Payroll				\$36,152,335
UAAL Amortization Contribution Rate				33.48%

\*This amortization payment reflects the impact of the additional contributions from Senate Bill No. 2659 and House Bill No. 1015.

Valuation Year	2023	2024
Employer Normal Cost	19.36%	19.61%
Actuarial Accrued liability	32.26%	33.48%
Total ADC	51.62%	53.09%
ADC/FCR Ratio	105.18%	108.17%
Metric Status	<b>Yellow</b>	<b>Yellow</b>
Anticipated accrued liability payment period	25 years	24.3 years

# HSPRS Projections



# HSPRS Projection Results

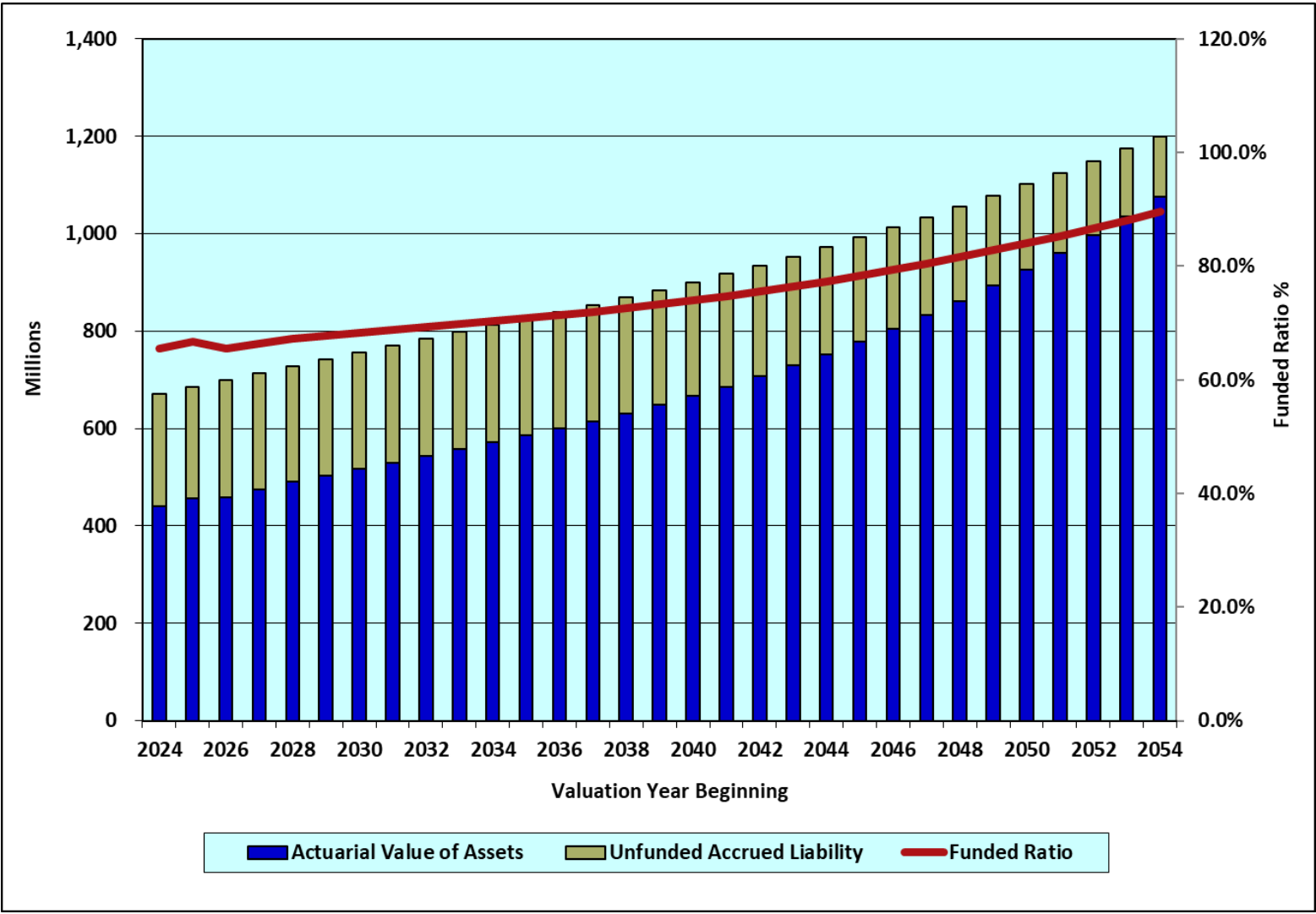
(\$ in thousands)

- Baseline Results at 7.00% (Stable 49.08% Rate)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$34,645	\$39,030	\$42,995	\$54,821	\$58,761	\$69,327
UAL	231,089	238,865	240,941	219,857	201,740	124,763
Normal Cost Rate	19.61%	20.20%	20.61%	20.95%	21.03%	21.26%
UAL Rate	29.47%	28.88%	28.47%	28.13%	28.05%	27.82%
FCR Rate	49.08%	49.08%	49.08%	49.08%	49.08%	49.08%
Funded Ratio	65.5%	67.8%	70.3%	77.4%	80.5%	89.6%
Amortization Period	33 years	28 years	25 years	16 years	13 years	6 years
ADC	53.09%	57.97%	63.84%	79.61%	86.92%	41.45%
ADC Ratio	108.2%	118.1%	130.1%	162.3%	177.1%	84.4%
Cash Flow %	(4.1)%	(4.2)%	(4.4)%	(3.6)%	(3.3)%	(2.9)%

- Under baseline projection, the funded ratio is 80.5% in 2047

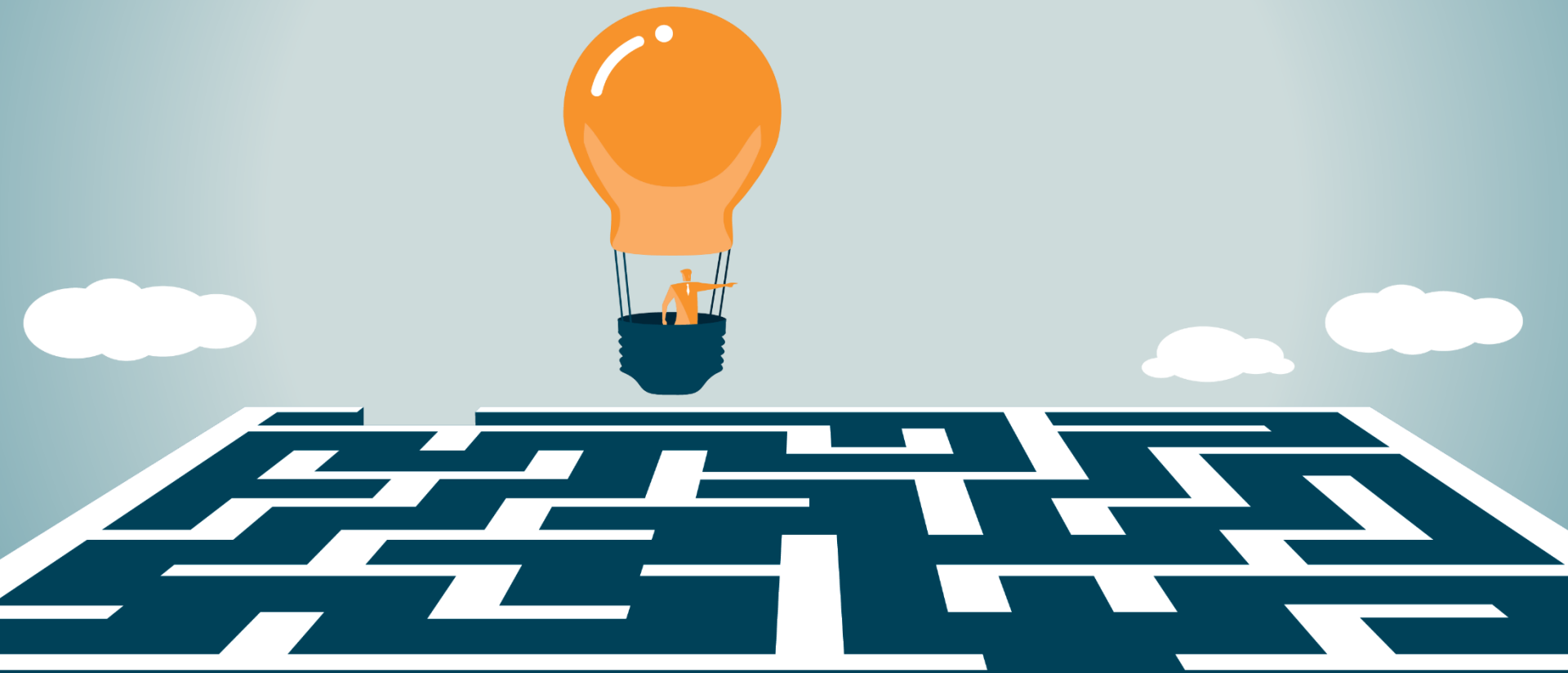
# 30 Year Projection of Funded Ratio on Actuarial Asset Value Based on June 30, 2024 Valuation Results - HSPRS



Metric	2024 Baseline Projection (7.00%)	Status
Funding Ratio in 2047	80.5%	Yellow
Cash Flow as a Percentage of Assets	(4.4)%	Green
ADC/FCR Ratio from 2024 Valuation	108.2%	Yellow
ADC/FCR Ratio from 2025 Valuation	108.0%	Yellow

- **As shown above, none of the metrics are in the “Red Status” for the valuation and projections.**
- **Therefore, we recommend to the PERS Board that the Fixed Contribution Rate (FCR) continue at a rate of 49.08% of annual compensation for HSPRS at this time. However, without any further actuarial gains, it is expected that the ADC/FCR ratio could be in the Red status in the next few years requiring an increase in the next 5 years.**

# SLRP Valuation Results

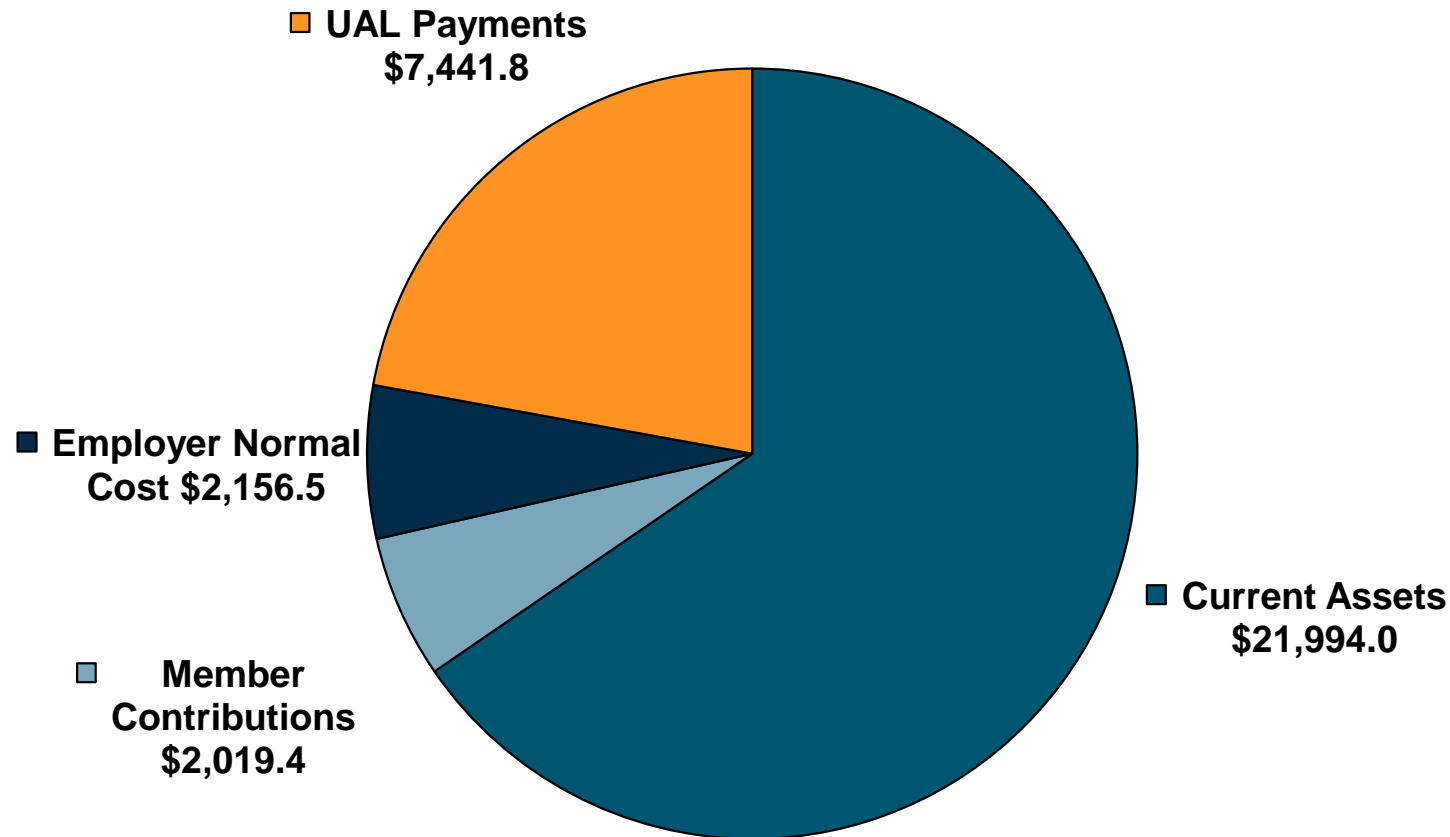




- **Net Market Value of Return for the 2024 FYE was approximately 10.5%**
  - Last year was around 7.5%
  - On an actuarial value basis, the return was 7.7% (last year was 7.1%) due to 5-year smoothing method
- **Funded Ratio went from 75.2% to 74.7%**
- **Amortization period using the FCR of 8.40% of payroll is 25.5 years**
  - Last year was 26.5 years
  - Decrease mainly due to increased contributions this year
- **Projection results show SLRP to be 86.9% funded in 2047**

# SLRP Financing of Retirement Benefit Promises

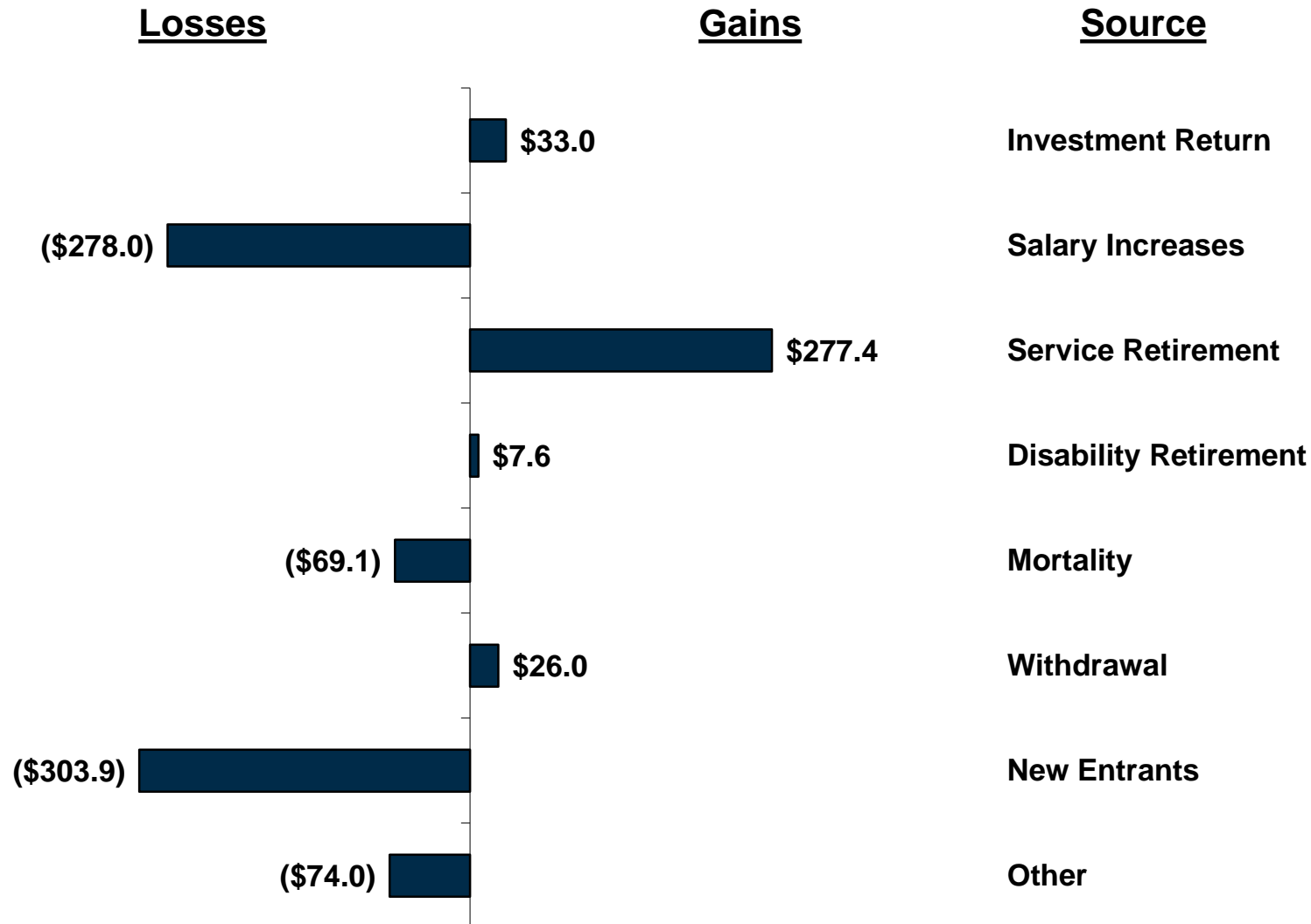
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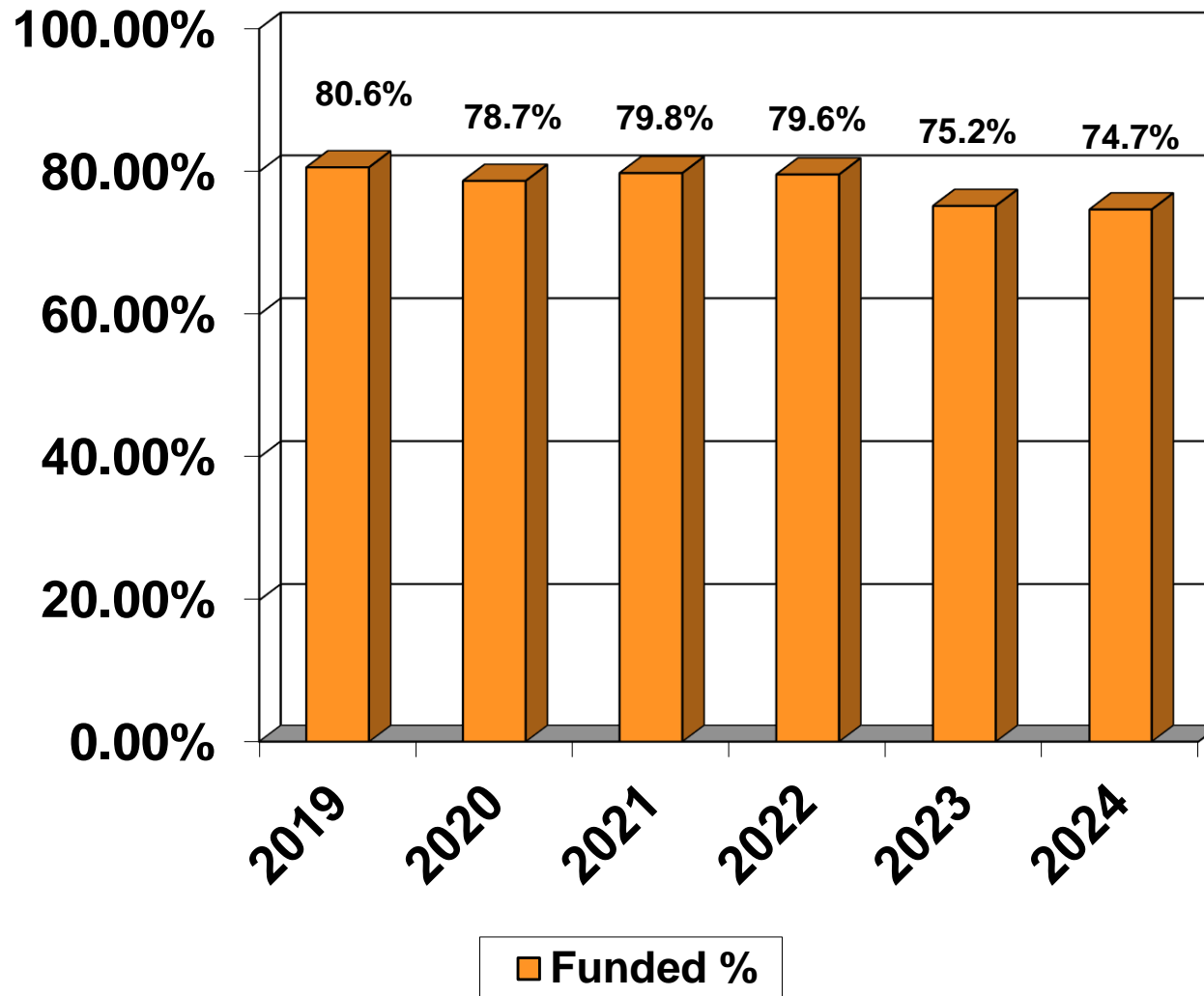


**Total - \$33,611.7**

# SLRP Actuarial Gain/Loss Analysis

(\$ thousands)





Valuation Year	Member Rate	Employer Rate			Total Rate
		Normal*	UAL	Total	
2020	3.00%	2.83%	4.57%	7.40%	10.40%
2021	3.00%	2.85%	4.55%	7.40%	10.40%
2022	3.00%	2.67%	4.73%	7.40%	10.40%
2023	3.00%	3.21%	5.19%	8.40%	11.40%
2024	3.00%	3.22%	5.18%	8.40%	11.40%

\* A budgeted administrative expense is included in the normal cost of the fixed contribution rate.

# Actuarially Determined Contribution (ADC) – UAAL Portion

Date Established	Original UAAL Balance	Remaining UAAL Balance	Remaining Amortization Period	Amortization Payment
June 30, 2023	\$7,065,466	\$7,084,052	24 years	\$472,357
June 30, 2024	\$357,716	<u>\$357,716</u>	25 years	<u>\$23,298</u>
Total		\$7,441,768		\$495,655
Estimated Payroll				9,331,683
UAAL Amortization Contribution Rate				5.31%

Valuation Year	2023	2024
Employer Normal Cost	3.21%	3.22%
Actuarial Accrued liability	5.36%	5.31%
Total ADC	8.57%	8.53%
ADC/FCR Ratio	102.02%	101.55%
Metric Status	Yellow	Yellow
Anticipated accrued liability payment period	25 years	24.4 years

# SLRP Projections





# SLRP Projection Results

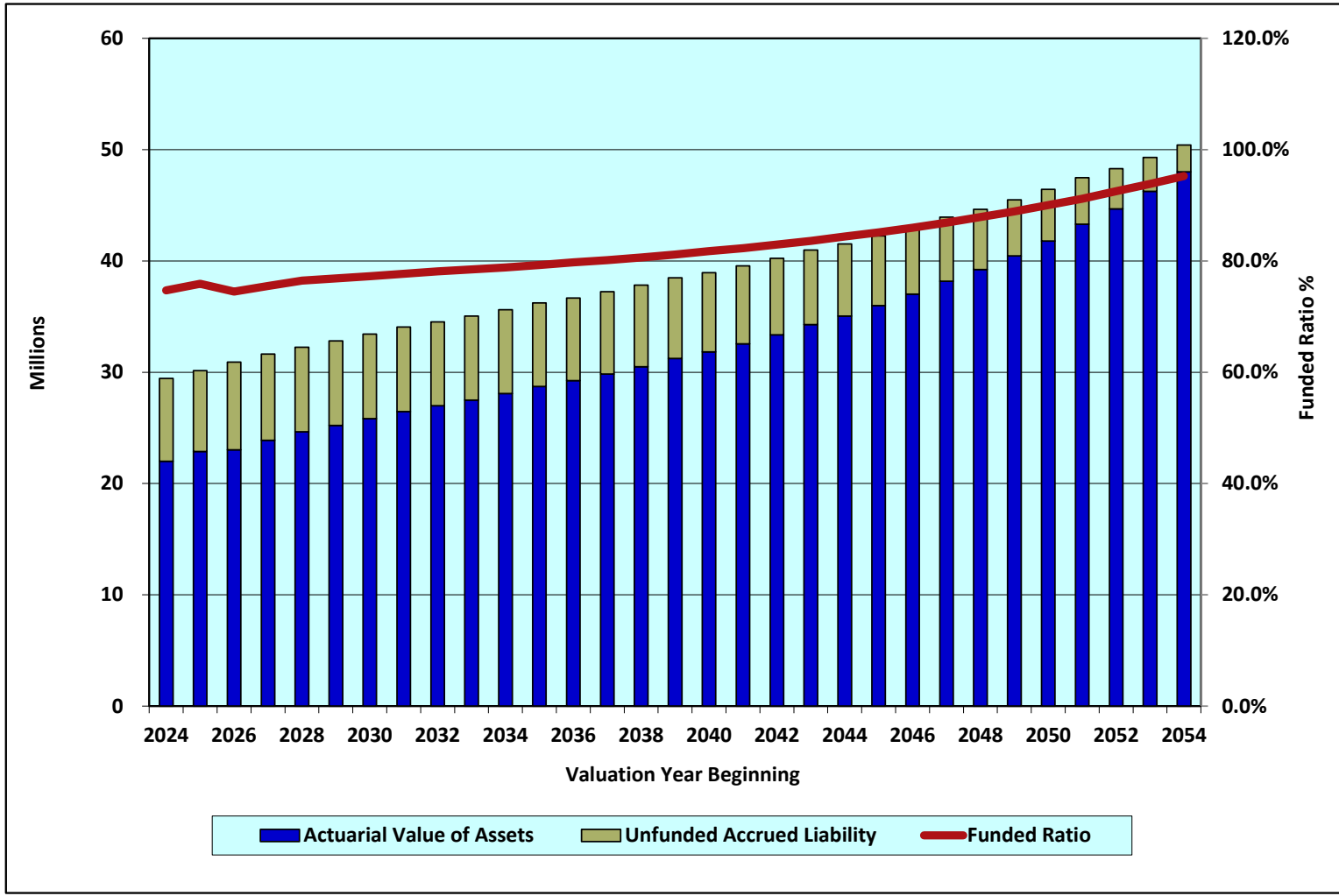
(\$ in thousands)

- Baseline Projection at 7.00% (Stable 8.40% Rate)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$9,091	\$9,902	\$10,960	\$13,783	\$14,808	\$17,649
UAL	\$7,442	\$7,599	\$7,533	\$6,483	\$5,760	\$2,401
Normal Cost Rate	3.22%	3.77%	4.03%	4.29%	4.31%	4.21%
UAL Rate	5.18%	4.63%	4.37%	4.11%	4.09%	4.19%
FCR Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funded Ratio	74.7%	76.9%	78.9%	84.4%	<b>86.9%</b>	95.2%
Amortization Period	25 years	28 years	25 years	15 years	12 years	3 years
ADC	8.53%	9.52%	10.26%	12.19%	12.94%	6.87%
ADC Ratio	101.6%	113.3%	122.2%	145.1%	154.1%	81.8%
Cash Flow %	(4.0)%	(4.4)%	(4.6)%	(4.2)%	(4.1)%	(2.9)%

- Under baseline projection, the funded ratio is 86.9% in 2047

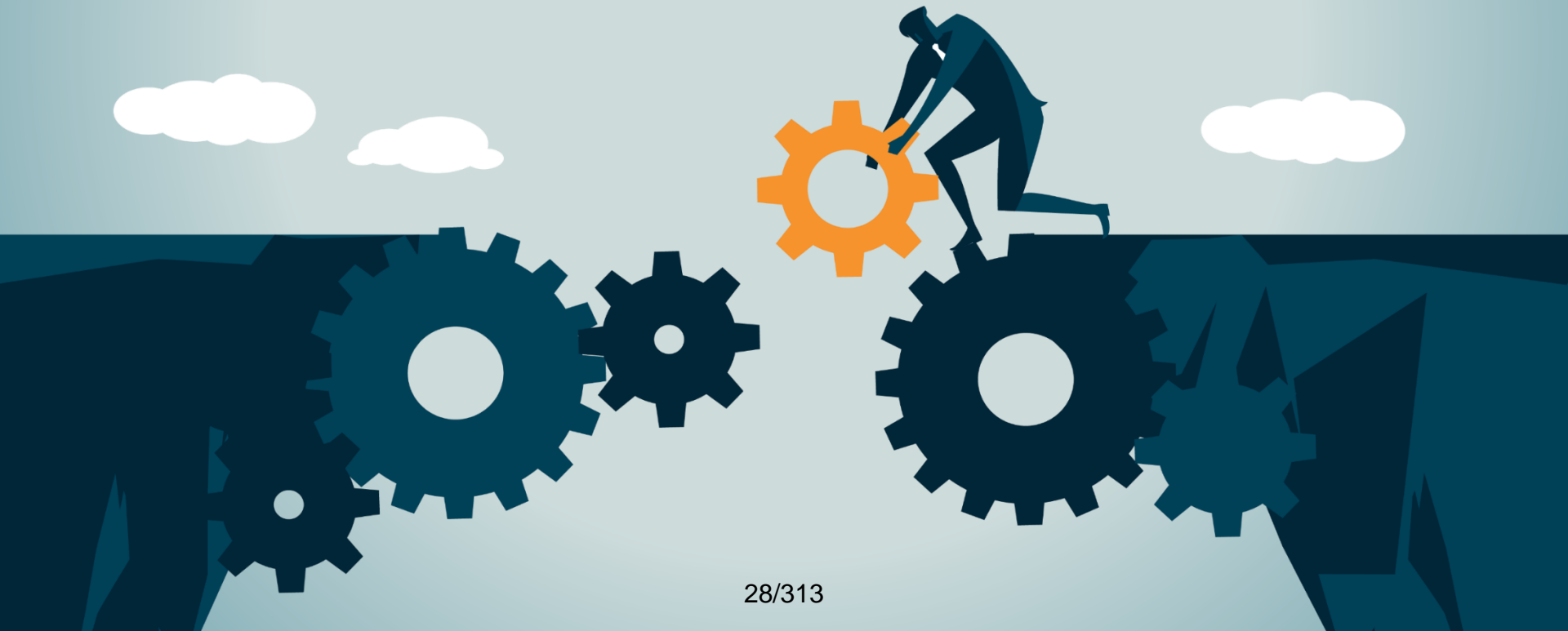
# 30 Year Projection of Funded Ratio on Actuarial Asset Value Based on June 30, 2024 Valuation Results - SLRP



Metric	2024 Baseline Projection (7.00%)	Status
Funding Ratio in 2047	86.9%	Yellow
Cash Flow as a Percentage of Assets	(5.0)%	Green
ADC/FCR Ratio from 2024 Valuation	101.6%	Yellow
ADC/FCR Ratio from 2025 Valuation	101.5%	Yellow

- As shown above, none of the metrics are in the “Red Status” for the valuations and projections.
- Therefore, we recommend to the PERS Board that the Fixed Contribution Rate (FCR) continue at a rate of 8.40% of annual compensation for SLRP at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.

# ASOP 51 – Risk Assessment



- Actuary is to identify risks that may affect the System's future financial condition
- Examples in ASOP 51 that are relevant for most public plans
  - **Investment risk**
    - potential that return will be different than expected
  - **Longevity risk**
    - potential that mortality experience will be different than expected
  - **Covered payroll risk**
    - potential that covered payroll will not increase as assumed (especially important if UAL is amortized as level percent of payroll)
  - **Active Population risk**
    - potential for number of active members to decline or plan closed to new entrants
  - **Contribution rate risk**
    - potential for contribution rates to be too high for the plan sponsor/employer to pay

## • Projected Funded Ratios

Single Year Event	PERS	HSPRS	SLRP
Projection Year	2047	2047	2047
• 1.00% in 2024	42.7%	69.4%	73.9%
• 3.00% in 2024	46.4%	73.1%	78.2%
• 5.00% in 2024	50.0%	76.8%	82.6%
• <b>7.00% in 2024 (Baseline)</b>	<b>53.7%</b>	<b>80.5%</b>	<b>86.9%</b>
• 9.00% in 2024	57.3%	84.2%	91.2%
• 11.00% in 2024	61.0%	87.9%	95.5%
• 13.00% in 2024	64.6%	91.5%	99.9%
• Simulate 2008 loss using Negative 15% in 2024	13.5%	40.0%	39.4%
<b>Average Returns over next 10-Year Period (Simulated returns using mean and standard deviations from PERS' Investment Consultant's Capital Market Assumptions)</b>			
• 6.00%	39.3%	65.5%	69.1%
• 7.00%	53.9%	80.7%	87.0%
• 8.00%	73.5%	100.4%	110.5%

- Projected Funded Ratios**

Active Membership Growth	PERS	HSPRS	SLRP
Projection Year	2047	2047	2047
• Increase 0.50% each year	59.1%	83.5%	N/A
• Increase 0.25% each year	56.4%	82.0%	N/A
• <b>Static Population (Baseline Assumption)</b>	<b>53.7%</b>	<b>80.5%</b>	<b>78.4%</b>
• Decrease 0.25% each year	51.0%	79.0%	N/A
• Decrease 0.50% each year	48.4%	77.6%	N/A

- Projected Funded Ratios**

Projection Year				2047	2047	2047
Scenario	Price Inflation	Discount Rate	Wage Inflation	PERS	HSPRS	SLRP
<b>1 - Baseline</b>	<b>2.40%</b>	<b>7.00%</b>	<b>2.65%</b>	<b>53.7%</b>	<b>80.5%</b>	<b>86.9%</b>
2	2.40%	6.75%	2.65%	46.2%	71.5%	77.2%
3	2.10%	6.75%	2.35%	45.0%	68.5%	74.2%



- Projected Funded Ratios**

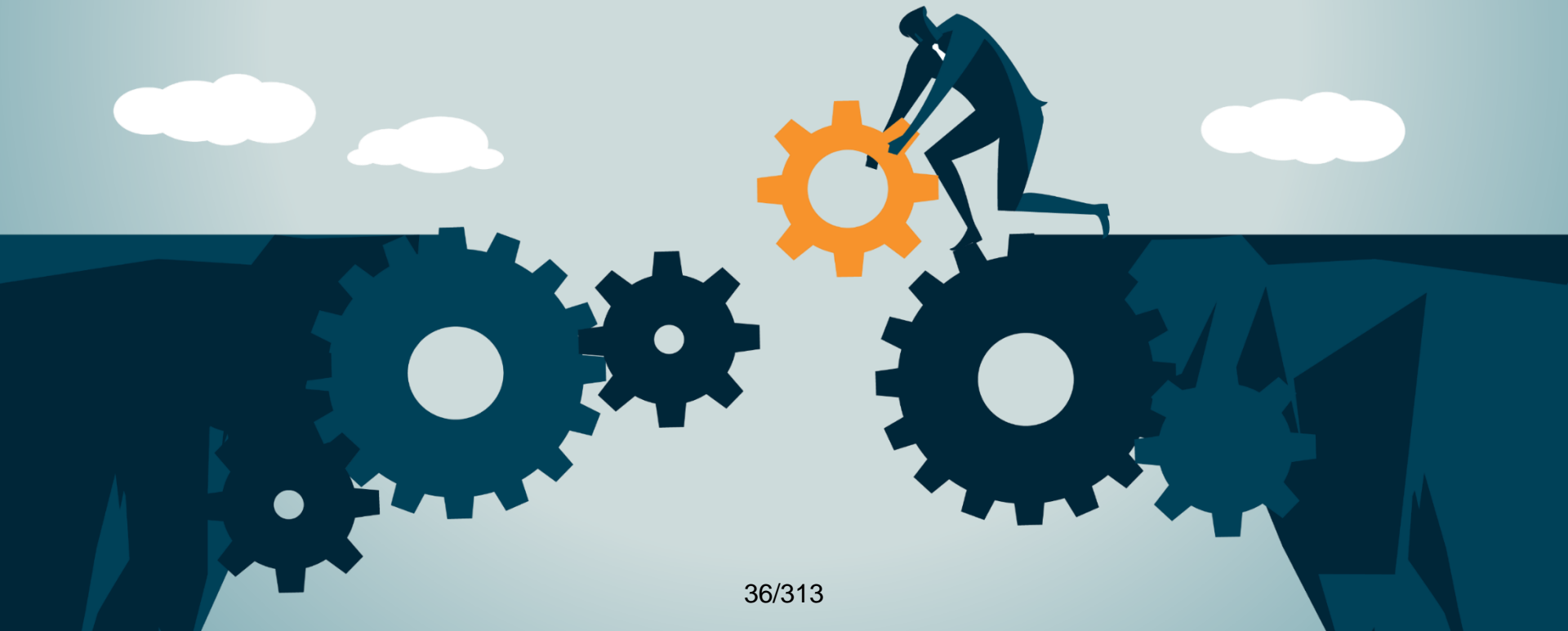
Projected to:	2047	2047	2047
Change in Fixed Contribution Rate (FCR)	PERS	HSPRS	SLRP
• <b>Baseline</b>	<b>65.5%</b>	<b>80.5%</b>	<b>86.9%</b>
• 1.00% increase in FCR	70.9%	82.7%	100.0%
• 1.00% decrease in FCR	60.0%	78.3%	73.8%

# MRS Valuation Results

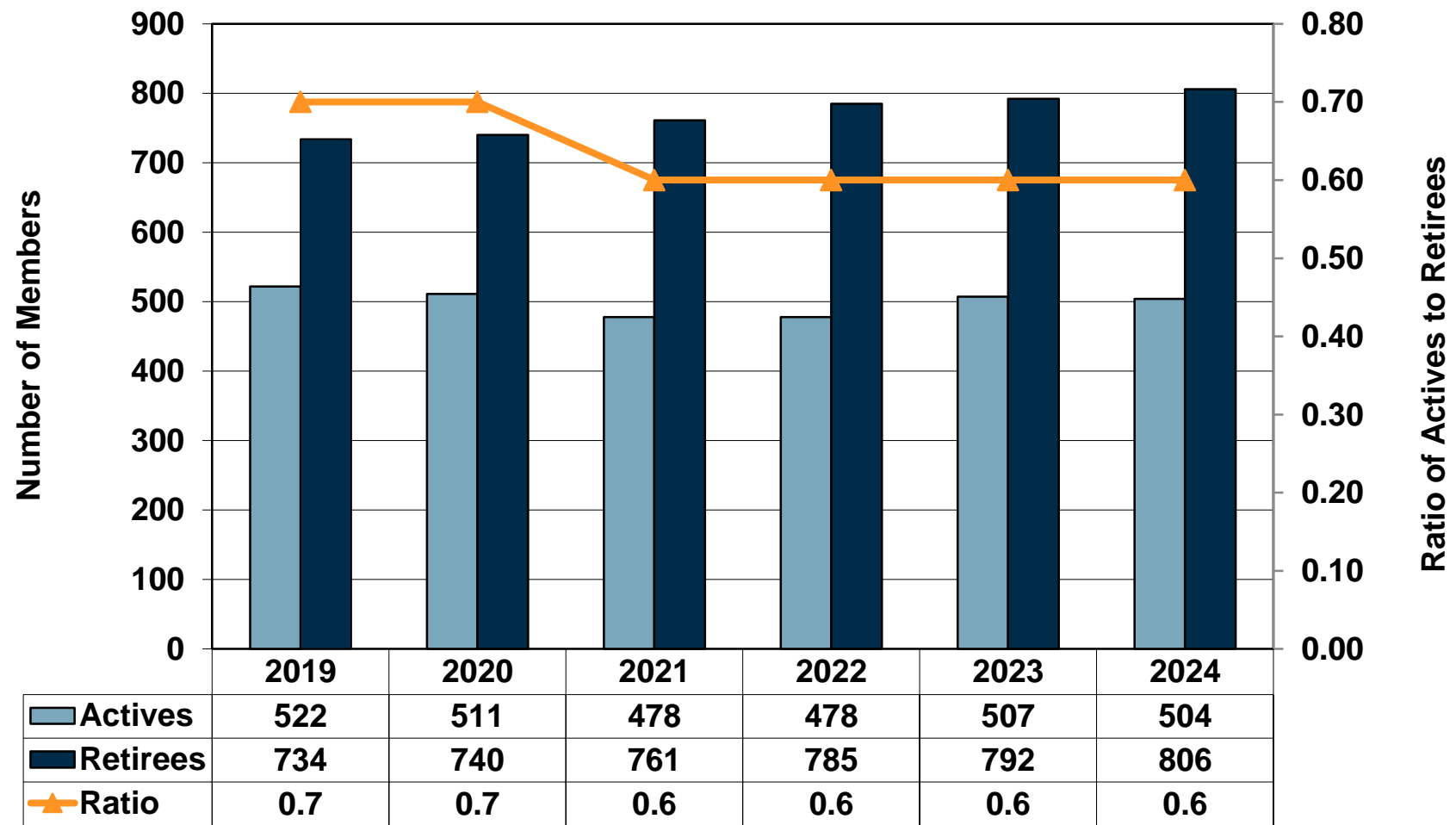


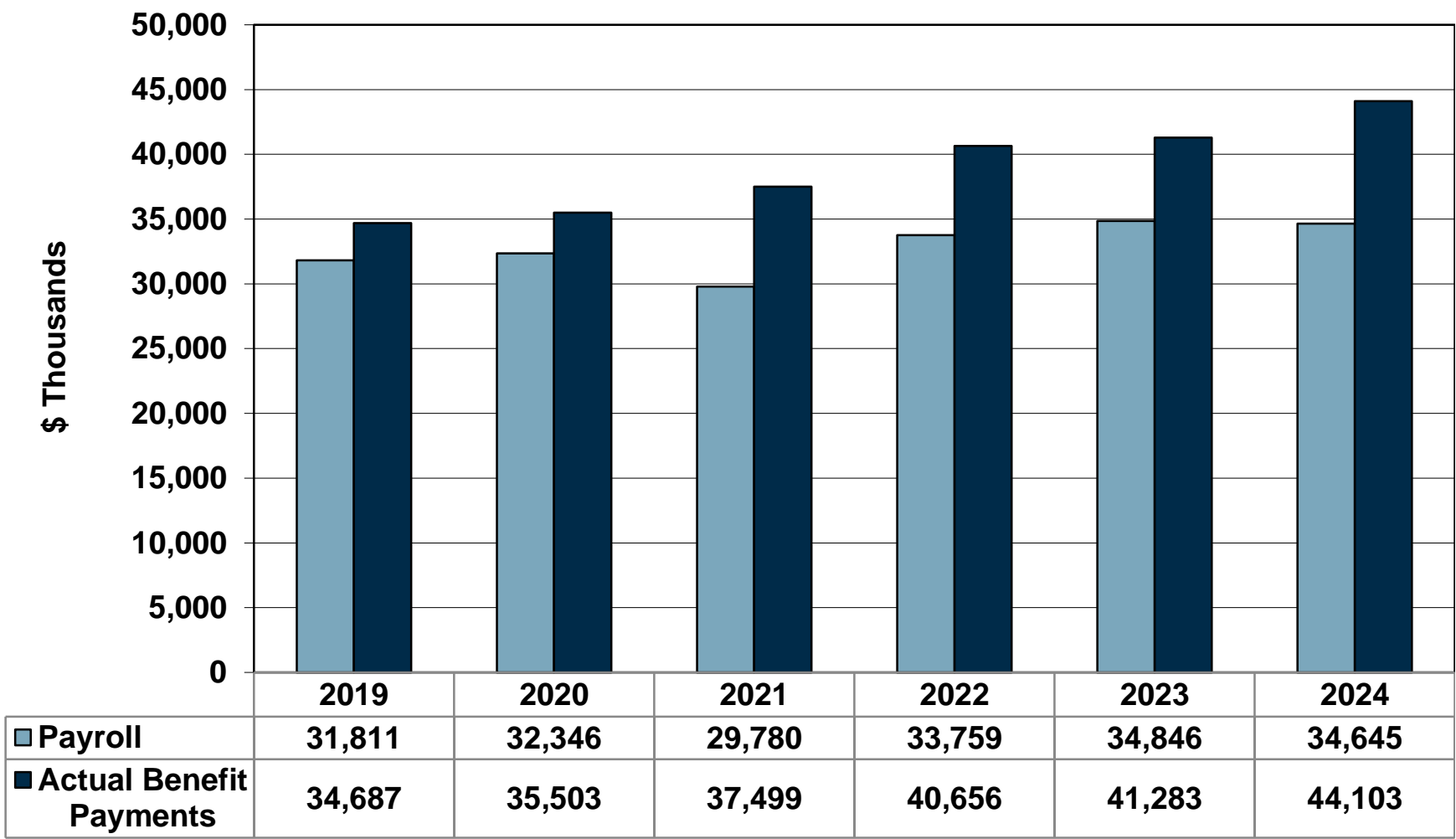
- Tupelo granted a 2% ad-hoc benefit increase for most retirees
- From last year to this year, assessed property values increased for fifteen municipalities and decreased for two municipalities
- Only one of the municipalities needs to increase its millage rate for fiscal year ending September 30, 2026, due to experience

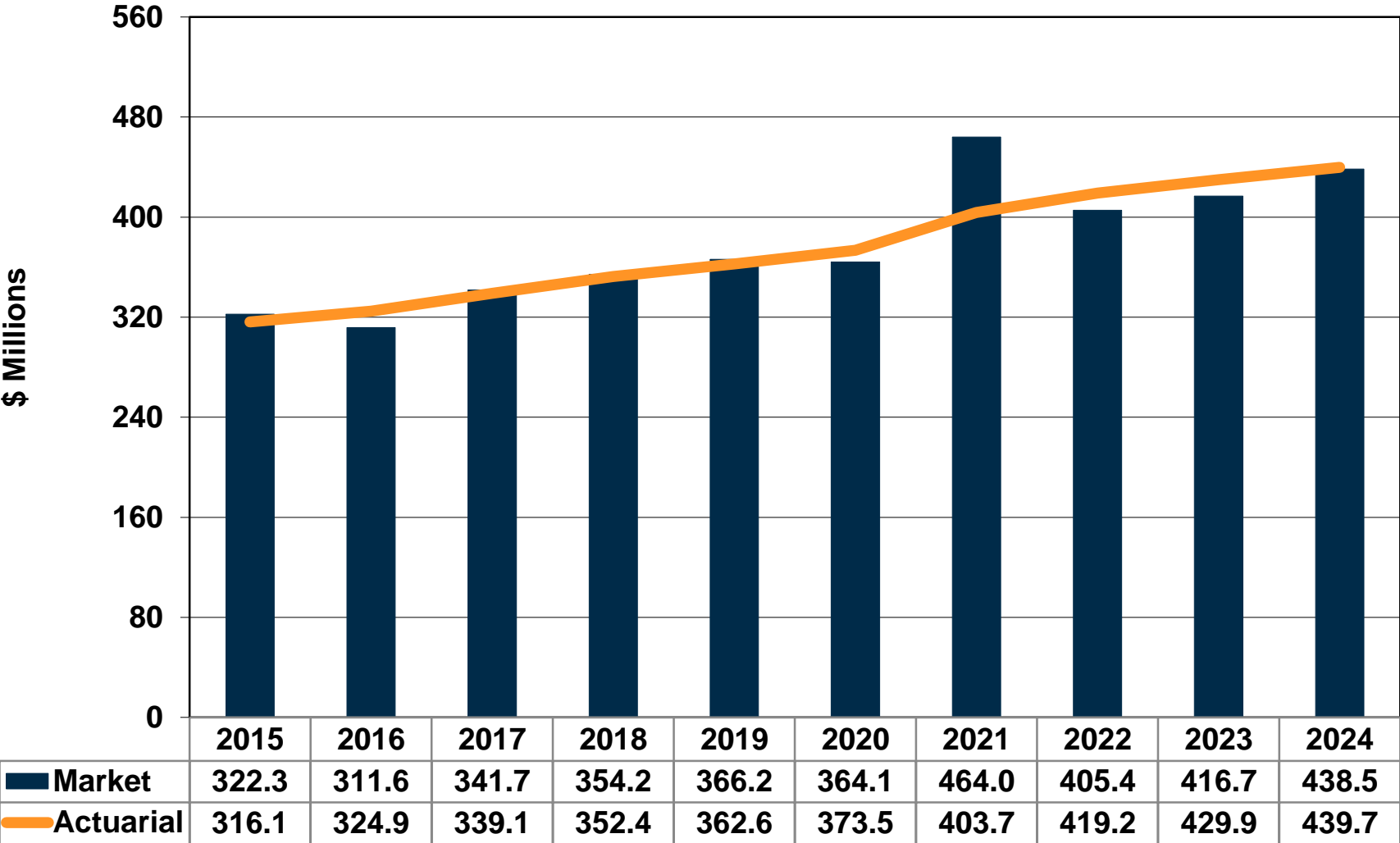
# Appendix



# HSPRS Census Data - June 30

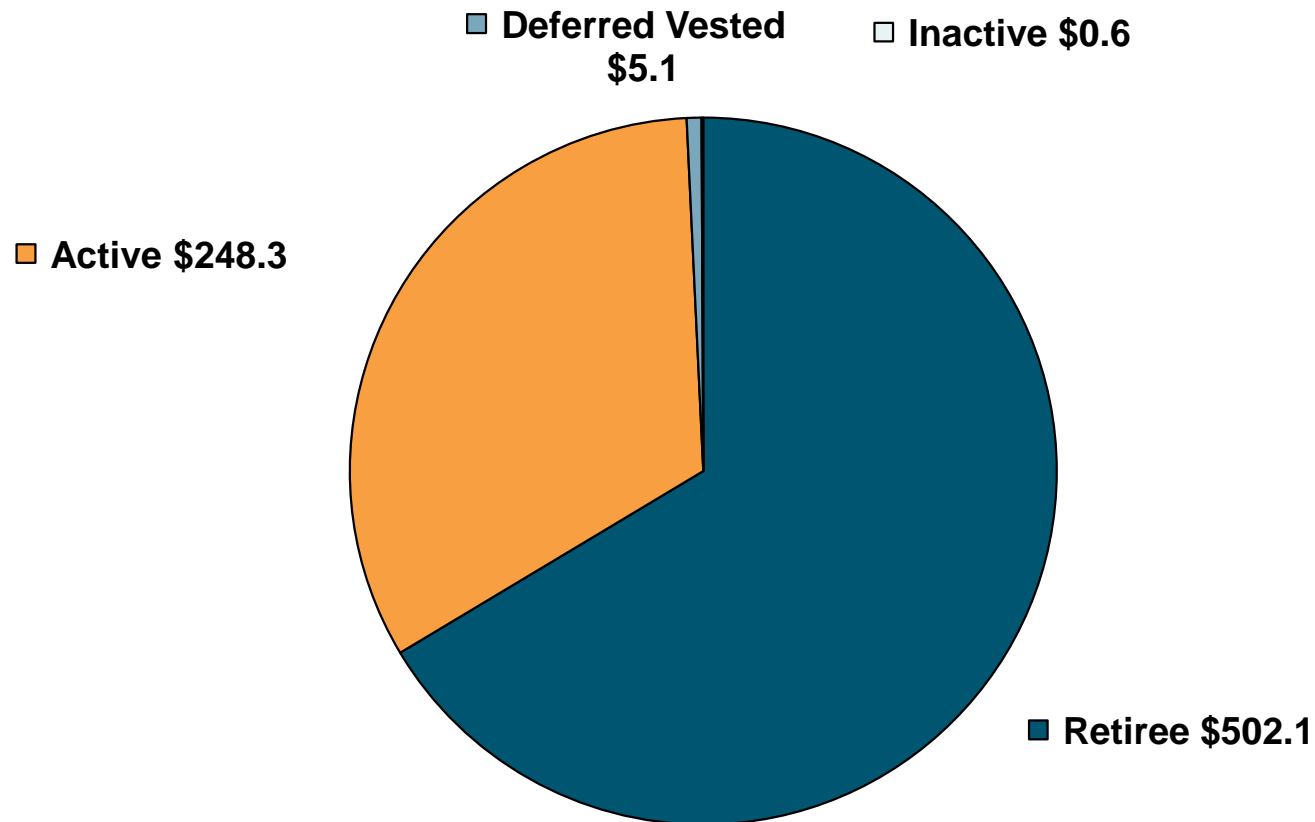






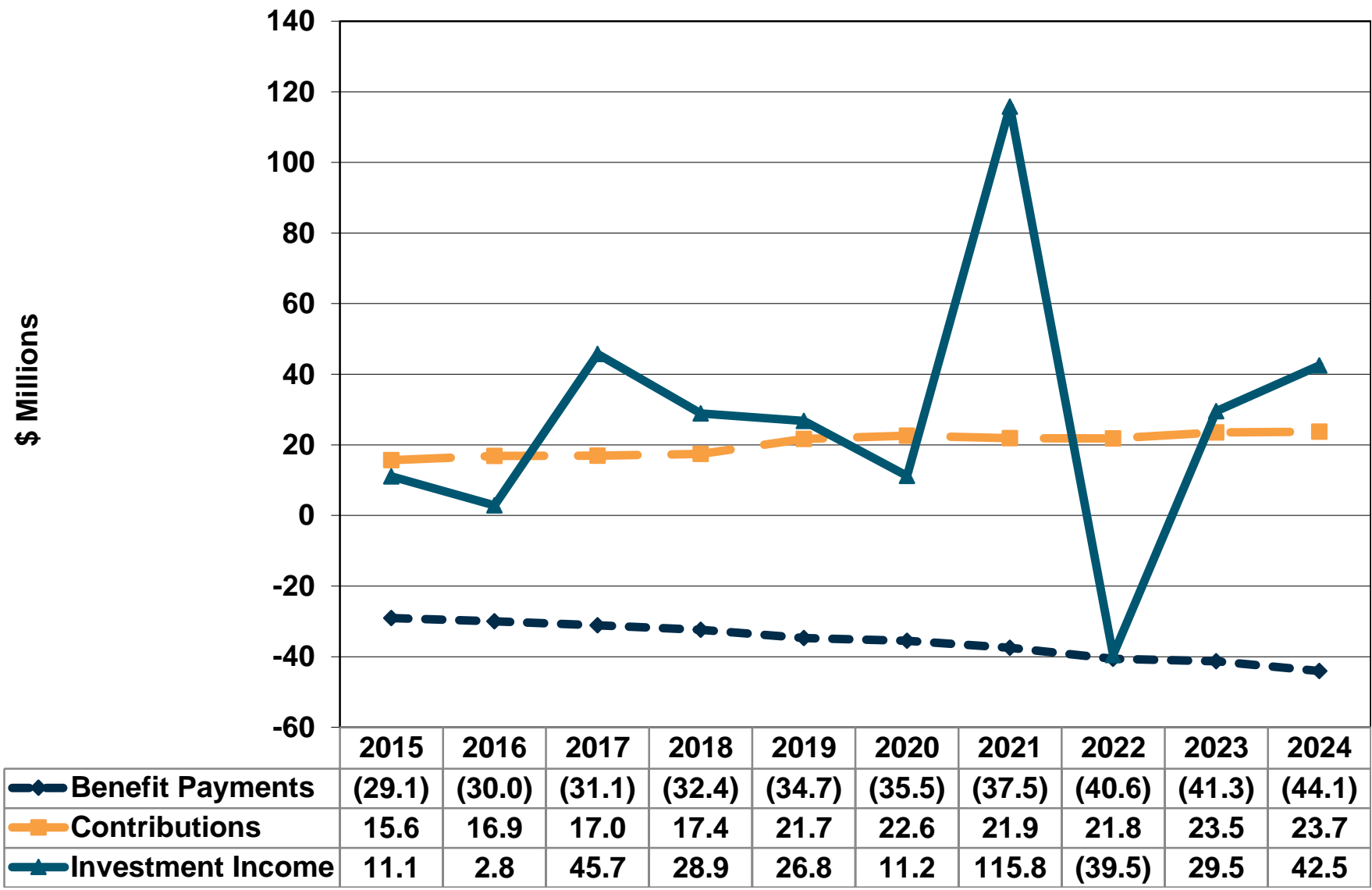
# HSPRS Value of Future Benefits

(\$ millions)



**Total - \$756.1**





Previously Reported Period	30.6 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	0.9
MVR Fee Assumption change	0.4
Assumption Changes	0.0
Contribution experience	2.1
Computed Period	33.0 years

# HSPRS Solvency Test

(\$ Millions)

Valuation Date	Aggregate Accrued Liabilities For				Portion Covered by Actuarial Value of Assets		
	Active Member Contributions	Retirees, Survivors and Inactives	Employer Portion for Active Members	Actuarial Value of Assets			
	(1)	(2)	(3)		(1)	(2)	(3)
6/30/2024	\$23.4	\$502.1	\$145.2	\$439.7	100%	82.9%	0.0%
6/30/2023	23.0	480.9	153.3	429.9	100%	84.6%	0.0%
6/30/2022	24.0	442.9	137.2	419.2	100%	89.2%	0.0%
6/30/2021	24.8	417.5	130.8	403.7	100%	90.8%	0.0%
6/30/2020	26.4	389.3	146.0	373.5	100%	89.2%	0.0%
6/30/2019	27.2	372.5	142.2	362.6	100%	90.0%	0.0%

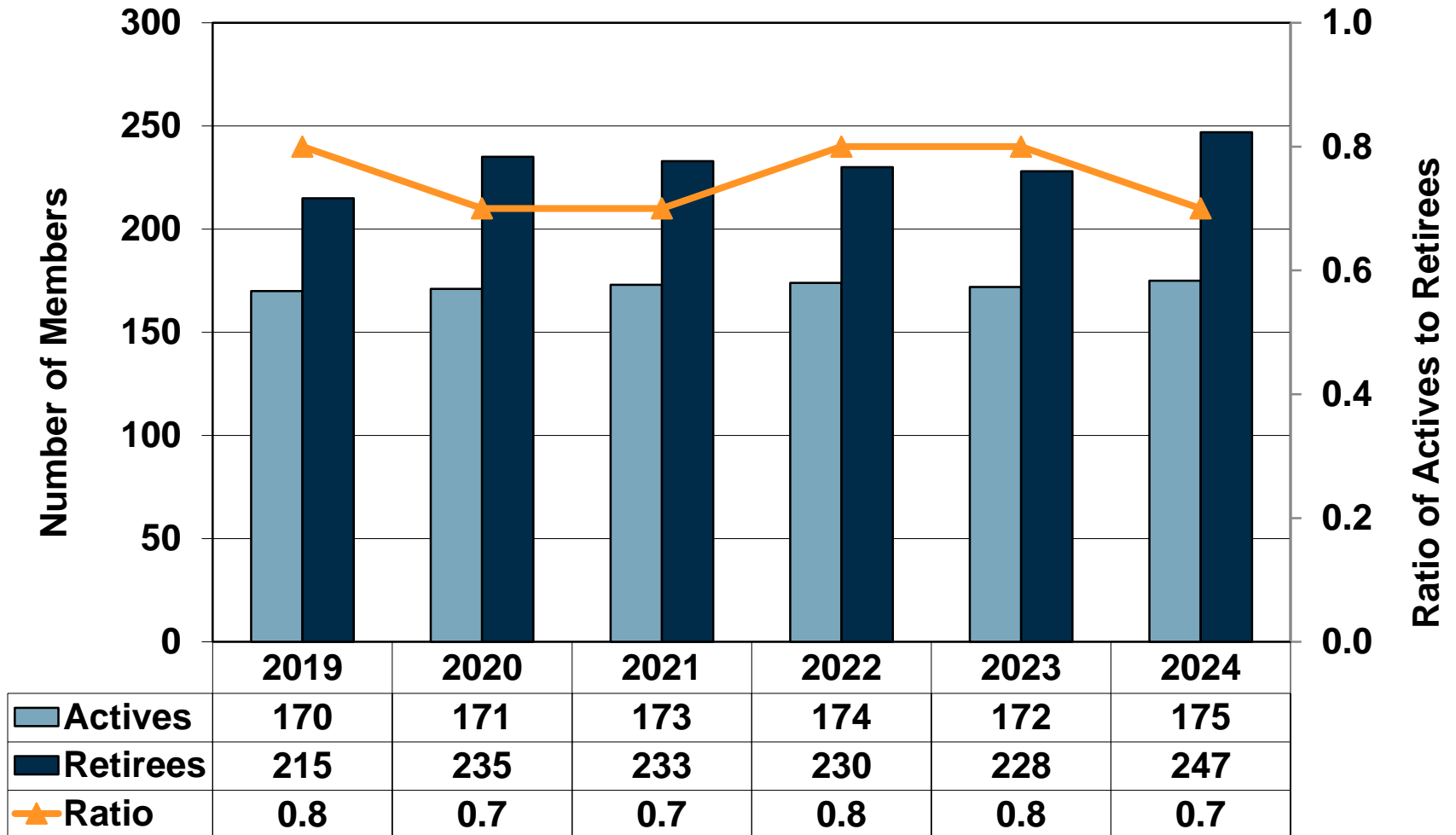
- Active Membership assumed to continue at a population of 504.

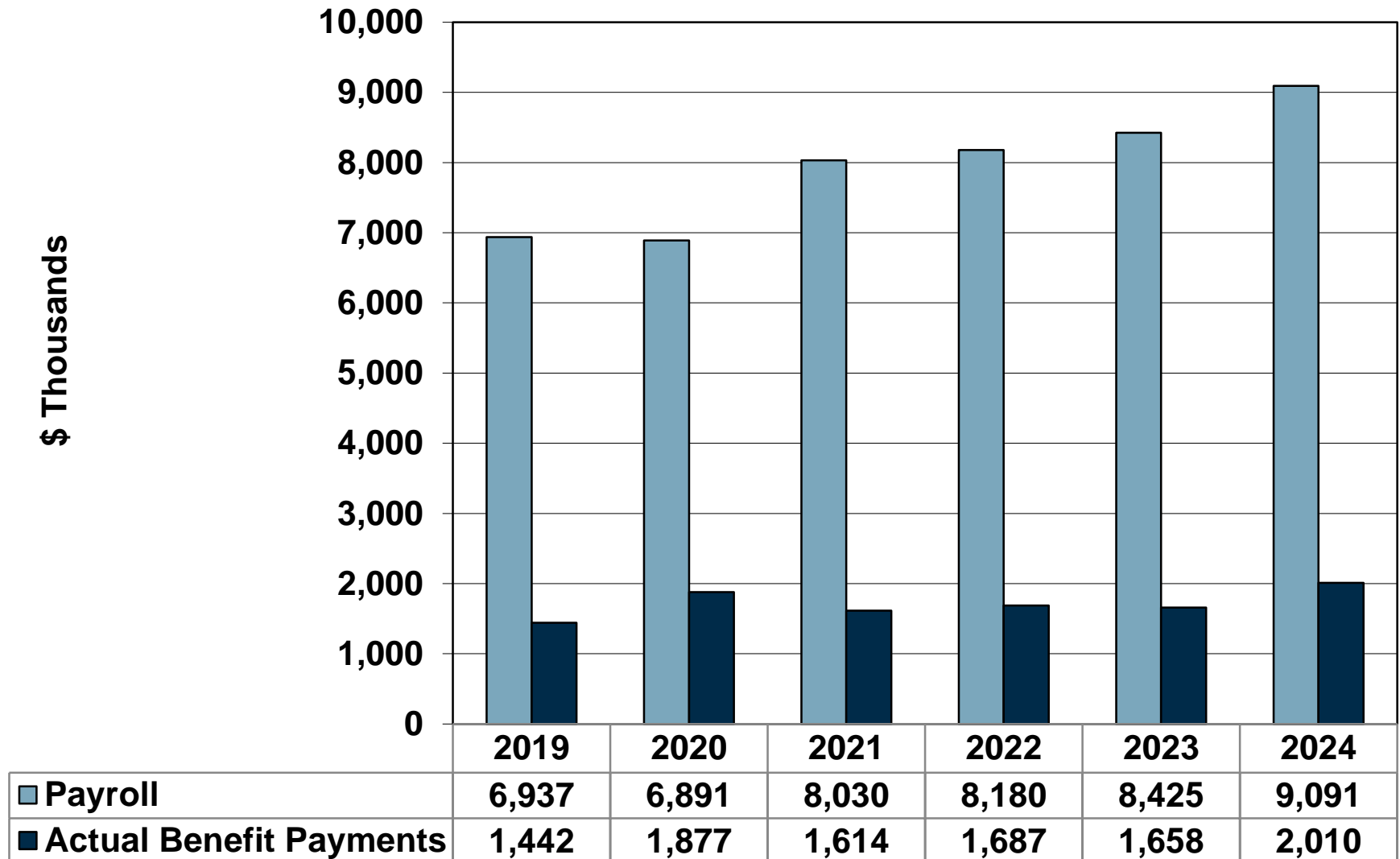
Member	2024	2029	2034	2044	2047	2054
Active – Existing Employees	504	372	260	106	65	9
Active – New Entrants	0	132	244	398	439	495
Retirees	612	693	783	926	949	1,035
Beneficiaries	182	196	210	207	207	207
Disableds	12	9	9	11	12	15
Vested Terms	41	35	47	62	67	72
Total	1,351	1,437	1,553	1,710	1,739	1,833

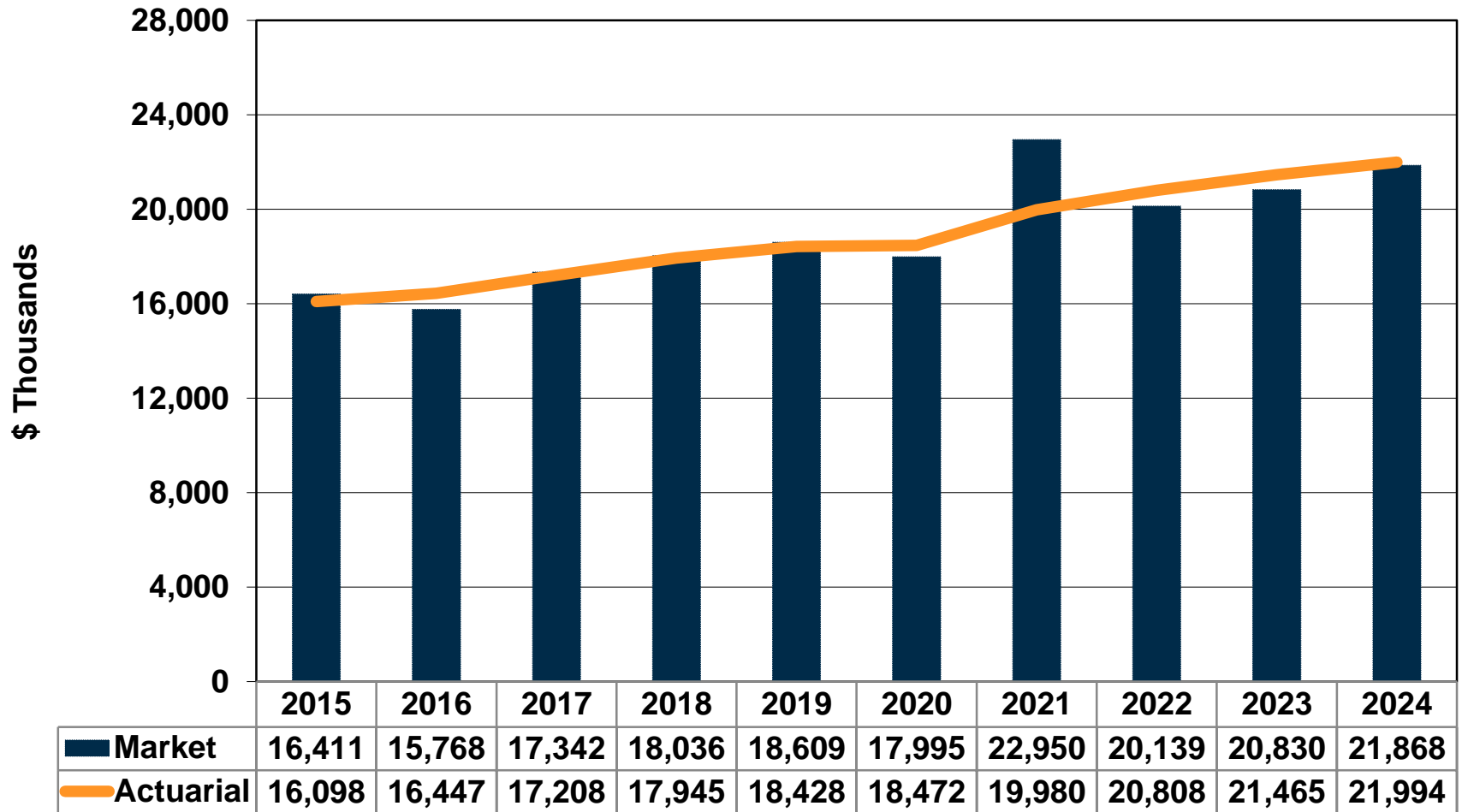
- Additional \$3.3 million assumed to be contributed annually throughout projection period due to SB 2659 and HB 1015.

- Alternative Results at 6.50% (Stable 49.08% Rate)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$34,645	\$39,030	\$42,995	\$54,821	\$58,761	\$69,327
UAL	271,438	295,779	321,390	381,268	400,755	448,983
Normal Cost Rate	23.26%	23.90%	24.37%	24.78%	24.88%	25.17%
UAL Rate	25.82%	25.18%	24.71%	24.30%	24.20%	23.91%
Total Rate	49.08%	49.08%	49.08%	49.08%	49.08%	49.08%
Funded Ratio	61.8%	62.4%	62.6%	63.0%	63.4%	64.7%
Amortization Period	45 years	49 years	52 years	51 years	50 years	48 years
ADC	61.68%	69.82%	80.17%	109.30%	122.44%	73.42%
ADC Ratio	125.7%	142.3%	163.4%	222.7%	249.5%	149.6%
Cash Flow %	(4.1)%	(4.3)%	(4.7)%	(4.1)%	(4.0)%	(3.8)%



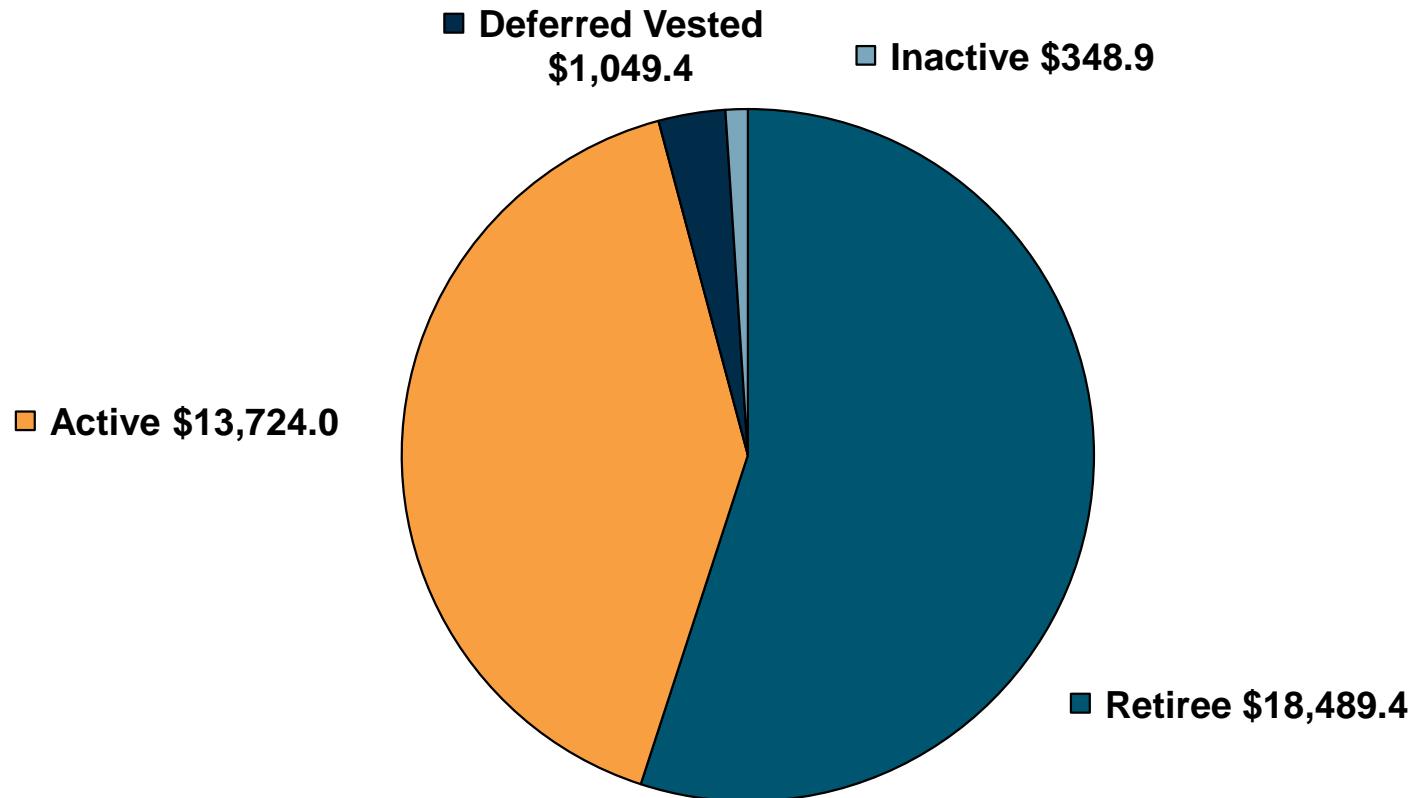






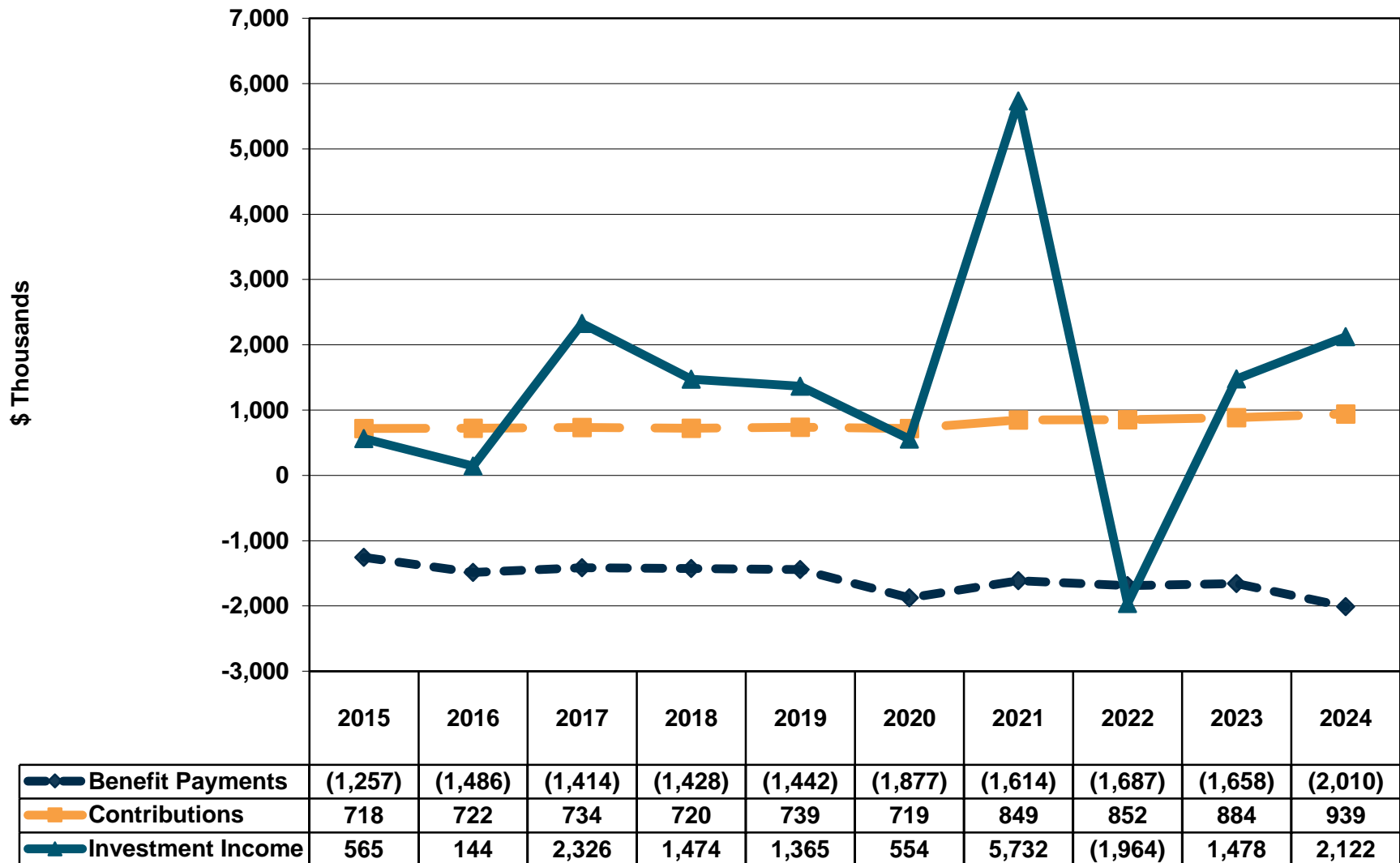
# SLRP Value of Future Benefits

(\$ thousands)



**Total - \$33,611.7**

# SLRP Cash Flow



Previously Reported Period	26.5 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	1.6
Assumption changes	0.0
Plan amendments	0.0
Contribution experience	(1.6)
Computed Period	25.5 years

# SLRP Solvency Test

(\$ Thousands)

Valuation Date	Aggregate Accrued Liabilities For			Actuarial Value of Assets	Portion Covered by Actuarial Value of Assets		
	Active Member Contributions	Retirees, Survivors and Inactives	Employer Portion for Active Members				
	(1)	(2)	(3)		(1)	(2)	(3)
6/30/2024	\$2,474	\$18,489	\$8,473	\$21,994	100%	100.0%	12.2%
6/30/2023	2,779	16,857	8,895	21,465	100%	100.0%	20.6%
6/30/2022	2,611	16,053	7,469	20,808	100%	100.0%	28.7%
6/30/2021	2,331	16,275	6,796	19,980	100%	100.0%	20.2%
6/30/2020	2,145	16,356	4,984	18,472	100%	99.8%	0.0%
6/30/2019	2,701	14,282	5,951	18,428	100%	100.0%	24.3%

- Active Membership assumed to continue at current maximum active population – 175.

Member	2024	2029	2034	2044	2047	2054
Active – Existing Employees	175	112	71	18	15	5
Active – New Entrants	0	63	104	157	160	170
Retired/Deferred Vesteds	282	294	281	249	225	205
Total	457	469	456	424	400	380

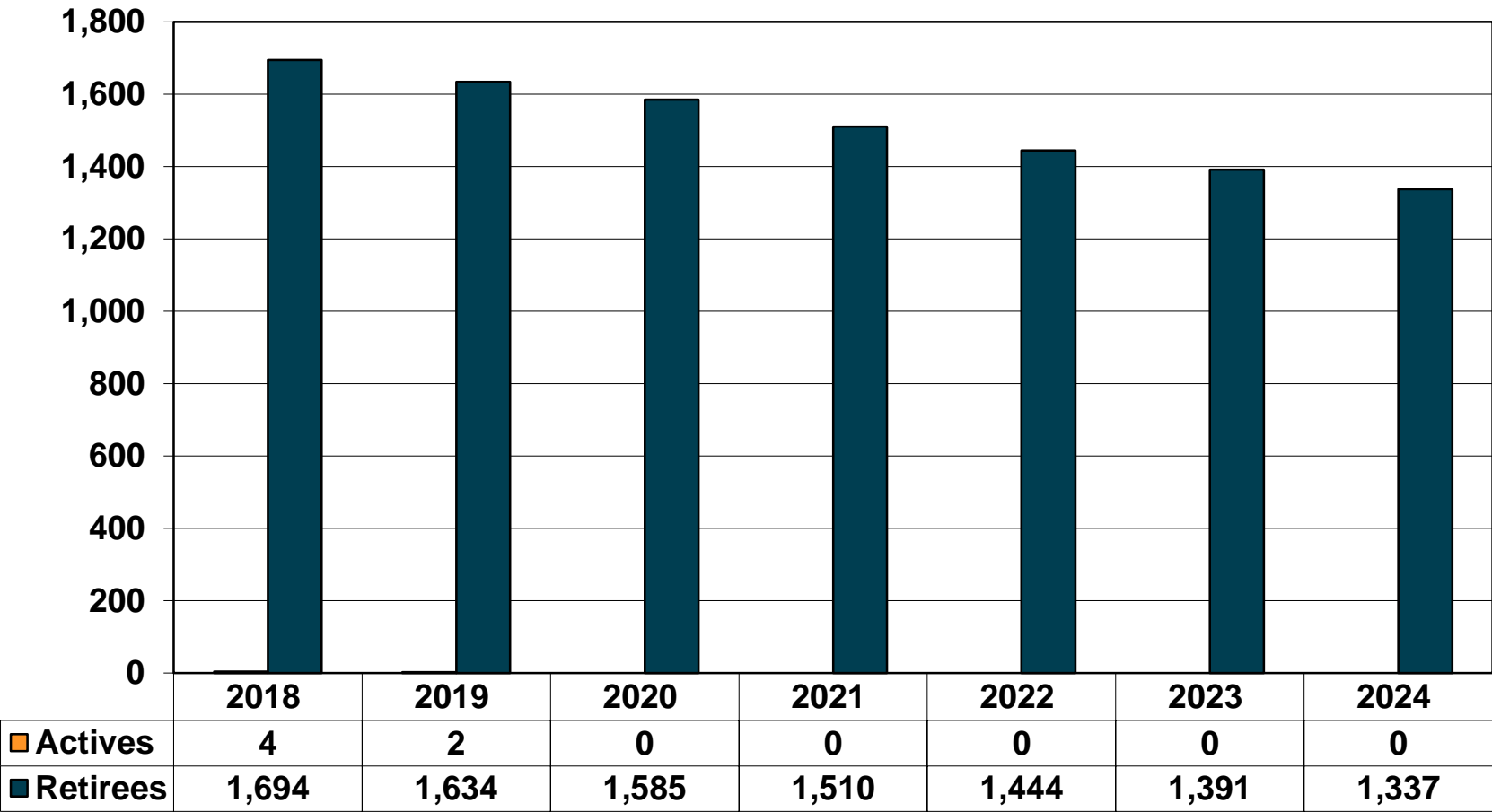
- Alternative Projection at 6.50% (Stable 8.40% Rate)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$9,091	\$9,902	\$10,960	\$13,783	\$14,808	\$17,649
UAL	\$8,964	\$9,861	\$10,872	\$13,556	\$14,577	\$17,008
Normal Cost Rate	3.88%	4.47%	4.75%	5.02%	5.05%	4.94%
UAL Rate	4.52%	3.93%	3.65%	3.38%	3.35%	3.46%
Total Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funding Ratio	71.0%	71.4%	70.9%	68.9%	<b>68.4%</b>	67.8%
Amortization Period	32 years	72 years	100 years	100 years	100 years	100 years
ADC	9.96%	11.55%	13.07%	17.43%	19.21%	12.57%
ADC Ratio	118.6%	137.5%	155.6%	207.5%	228.7%	149.7%
Cash Flow %	(4.0)%	(4.5)%	(4.9)%	(4.9)%	(5.0)%	(3.8)%

- The employer contribution rate (expressed as a millage rate tax applied to assessed property values) is established to generate an ultimate asset reserve level equal to a reasonable percentage of the next year's projected benefit payments.
  - Ultimately, a Pay-As-You-Go (PAYG) basis will be created once contribution levels get lower than expected benefit payments
- Maintain adequate asset levels to finance the benefits promised to members. Initially the target level will be no less than 100% and no more than 150% of next year's benefit payments.

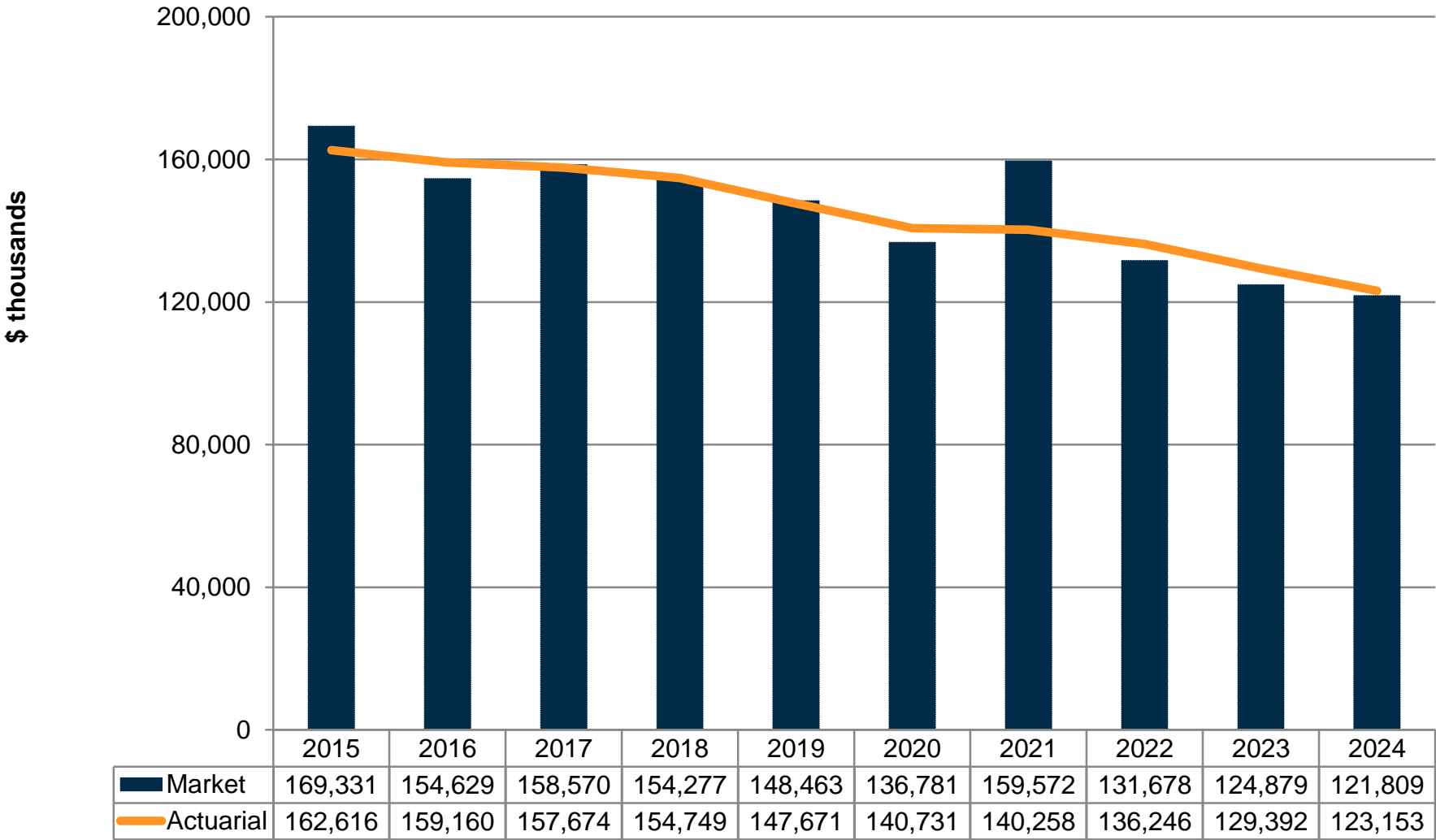
- Develop a pattern of contribution rates that will develop the required funds needed to meet the requirement of paying all benefits with little residual value.
- Assume a change to a more conservative asset portfolio – investment return assumption set at 5.50% (1.50% less than the assumption used by PERS).
- Assume no increase in assessed property values.
- Fund benefit improvements through increases in employer rates.

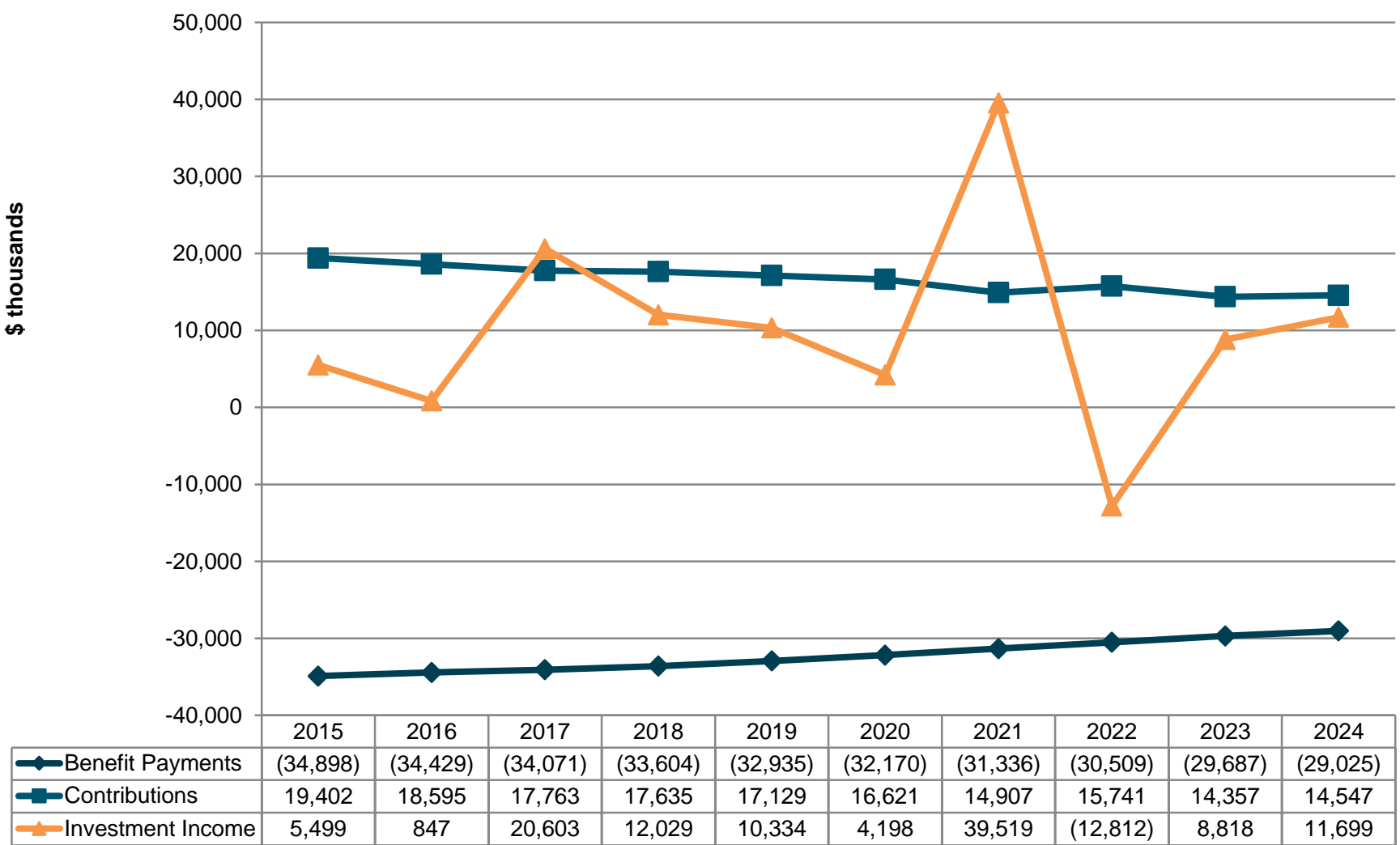




City	Retirees	Benefits
<b>Biloxi</b>	<b>67</b>	<b>\$1,919,320</b>
<b>Clarksdale</b>	<b>42</b>	<b>545,924</b>
<b>Clinton</b>	<b>31</b>	<b>907,260</b>
<b>Columbus</b>	<b>61</b>	<b>1,017,500</b>
<b>Greenville</b>	<b>55</b>	<b>787,137</b>
<b>Greenwood</b>	<b>38</b>	<b>565,827</b>
<b>Gulfport</b>	<b>68</b>	<b>1,631,258</b>
<b>Hattiesburg</b>	<b>127</b>	<b>3,149,173</b>
<b>Jackson</b>	<b>445</b>	<b>9,865,804</b>

City	Retirees	Benefits
Laurel	59	\$798,837
McComb	14	220,762
Meridian	119	2,028,970
Natchez	33	544,354
Pascagoula	48	1,085,849
Tupelo	67	1,449,888
Vicksburg	55	2,015,834
Yazoo	8	146,907
Total	1,337	\$28,680,604





# MRS Assessed Property Values

City	Assessed Value 2022	Assessed Value 2023	One-Year Percent Increase	5yr Annual Average Increase
Biloxi	\$662,733,865	\$673,514,757	1.6%	3.6%
Clarksdale	83,042,644	84,397,955	1.6%	0.2%
Clinton	238,190,869	238,704,997	0.2%	2.4%
Columbus	219,835,360	219,188,566	(0.3)%	2.7%
Greenville	207,650,264	223,866,331	7.8%	(2.1) %
Greenwood	104,333,810	106,334,642	1.9%	2.7%
Gulfport	856,464,936	896,764,815	4.7%	3.5%
Hattiesburg	505,342,123	543,307,810	7.5%	0.0%
Jackson	1,240,485,705	1,253,350,551	1.0%	4.7%

City	Assessed Value 2022	Assessed Value 2023	One-Year Percent Increase	5yr Annual Average Increase
Laurel	\$213,686,120	\$226,039,433	5.8%	4.7%
McComb	105,338,858	110,059,087	4.5%	0.9%
Meridian	366,810,051	374,469,534	2.1%	1.3%
Natchez	278,349,768	258,346,030	(7.2)%	20.0%
Pascagoula	256,612,126	309,592,933	20.6%	7.9%
Tupelo	577,164,739	607,092,925	5.2%	3.9%
Vicksburg	351,588,059	533,298,230	51.7%	16.6%
Yazoo City	55,418,778	55,937,302	0.9%	0.5%

City	Certified for FYE 2025	Current for FYE 2025	Certified for FYE 2026	Year when City goes to PAYG
Biloxi	1.65	1.65	1.56	2041
Clarksdale	4.72	4.72	4.93	2032
Clinton	0.81	0.81	0.76	2057
Columbus	3.69	3.70	3.32	Currently
Greenville	2.24	2.24	2.01	2036
Greenwood	2.33	2.76	2.28	2039
Gulfport	0.81	0.91	0.76	2045
Hattiesburg	2.63	2.63	2.19	2047
Jackson	3.29	3.29	3.07	2039



City	Certified for FYE 2025	Current for FYE 2025	Certified for FYE 2026	Year when City goes to PAYG
Laurel	1.29	2.60	0.74	2047
McComb	1.67	1.67	1.28	2038
Meridian	2.20	2.20	2.01	2045
Natchez	1.25	1.25	1.17	2038
Pascagoula	1.22	1.22	0.91	2043
Tupelo	1.39	1.61	1.27	2037
Vicksburg	2.73	2.73	1.70	2039
Yazoo City	2.33	3.03	2.38	Currently

# Mississippi Highway Safety Patrol Retirement System



## Annual Valuation Report

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**Prepared as of June 30, 2024**

December 7, 2024

Board of Trustees  
Public Employees' Retirement System of Mississippi  
429 Mississippi Street  
Jackson, MS 39201-1005

Ladies and Gentlemen:

Presented in this report are the results of the annual actuarial valuation of the Mississippi Highway Safety Patrol Retirement System (HSPRS). The purpose of the valuation is to:

- Measure the System's funding progress as of the valuation date,
- To determine the unfunded actuarial accrued liability amortization period beginning July 1, 2024 using the Fixed Contribution Rate (FCR) of 49.08% of payroll,
- To determine the actuarially determined contribution (ADC) for the fiscal year beginning July 1, 2026 using the assumptions and methods in the Board's funding policy,
- To project the System's funding progress for the next thirty years and provide clear reporting and risk analysis of the funding metrics as outlined in the Board's funding policy using a "Signal Light" approach, and
- To assist the Board in determining whether an increase or decrease is needed in the Fixed Contribution Rate.

The results may not be applicable for other purposes. The date of the valuation was June 30, 2024.

The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning active, inactive and retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of valuation results on page 1 and the projection results on page 6. Since none of the funding policy metrics are in the Red Status, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 49.08% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.



No changes were made to the actuarial assumptions or plan provisions since the previous valuation.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural 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 system's funded status); and changes in plan provisions or applicable law. An analysis of the potential range of future measurements is provided in Section XI of this report.

This actuarial valuation was performed to determine the adequacy of the Board approved contribution rate to fund the plan. The asset values used to determine unfunded liabilities and funded ratios are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts and funded ratios using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.



To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

A handwritten signature in blue ink that reads "Edward J. Koebel".

Edward J. Koebel, EA, FCA, MAAA  
Chief Executive Officer

A handwritten signature in blue ink that reads "Ben Mobley".

Ben Mobley, ASA, FCA, MAAA  
Consulting Actuary



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## SECTION I – EXECUTIVE SUMMARY

1. This report, prepared as of June 30, 2024, presents the results of the annual actuarial valuation of the System. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation and reported benefit amounts reflect any benefit increases granted to retirees as of July 1, 2024.

VALUATION DATE	June 30, 2024	June 30, 2023
<b>Investment Return Assumption</b>	<b>7.00%</b>	<b>7.00%</b>
Active members included in valuation		
Number	504	507
Annual compensation	\$ 34,644,780	\$ 34,845,681
Retirees		
Number	806	792
Annual allowances	\$ 40,445,454	\$ 38,778,092
Assets		
Market related actuarial value	\$ 439,688,000	\$ 429,909,000
Market value of assets (MVA)	\$ 438,476,000	\$ 416,724,000
Unfunded actuarial accrued liability (UAAL)	\$ 231,088,761	\$ 227,309,721
Funded Ratio based on actuarial value	65.5%	65.4%
Employer Fixed Contribution Rate (FCR)		
Normal Cost*	19.61%	19.36%
Accrued liability	<u>29.47</u>	<u>29.72</u>
Total	49.08%	49.08%
Payment period based on the FCR	33.0 years	30.6 years
Actuarially Determined Contribution (ADC) Rate		
Normal Cost*	19.61%	19.36%
Accrued liability	<u>33.48</u>	<u>32.26</u>
Total	53.09%	51.62%
Amortization Period for ADC	24.3 years	25.0 years
ADC Ratio to Fixed Contribution Rate	108.17%	105.18%
Unfunded actuarial accrued liability based on MVA	\$ 232,300,761	\$ 240,494,721
Funded Ratio based on market value	65.4%	63.4%

\* Includes load for administrative expenses. See Section VI for more contribution rate detail.





## SECTION I – EXECUTIVE SUMMARY

2. The valuation balance sheet showing the results and liabilities of the valuation is given in Section III.
3. Comments on the valuation results are provided in Section IV, comments on the experience and actuarial gains and losses during the valuation year are provided in Section V and the rates of contribution payable by employers are provided in Section VI and Section VII.
4. Due to Senate Bill No. 2659 enacted in 2004 and House Bill No. 1015 enacted April 25, 2013, additional contributions, classified as Motor Vehicle Replacement (MVR) fees are being made to the System and are expected to continue in the future. For the 2024 fiscal year, the total additional fees were \$3,293,000. We have lowered our expected contributions from these sources from \$3,400,000 to \$3,300,000 based on the average of actual monies received over the past three fiscal years and the expectation from these sources in the future. The employers are also required to contribute the employer contribution rate as determined based on the funding policy. The funding period of the Unfunded Actuarial Accrued Liability (UAAL) of 33.0 years shown on the previous page reflects the additional contributions from Senate Bill No. 2659 and House Bill No. 1015. Without these additional contributions, the funding period would have been 60.6 years on the current employer rate basis.
5. Schedule A of this report presents the development of the assets. The estimated investment return for the plan year ending June 30, 2024 on a market value of assets basis was 10.46% and on an actuarial value of assets basis was 7.28%. These can be compared to the assumed rate of return for the same period of 7.00%. The market value of assets basis return may be slightly different than what PERS reports as this estimated return is assuming cash flow as of the middle of the year.
6. Schedule B details the actuarial assumptions and methods employed. There have been no changes since the previous valuation.
7. Schedule C gives a summary of the benefit and contribution provisions of the Plan. There have been no changes since the previous valuation.
8. The funded ratio shown in the Summary of Principal Results is the ratio of actuarial value of assets to the actuarial accrued liability. The funded status is different based on the market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward the payment of the unfunded accrued liability. In addition, this funded ratio does not have any relationship to measuring the sufficiency if the plan had to settle its liabilities.







## SECTION I – EXECUTIVE SUMMARY

9. The employer contribution rate, or Fixed Contribution Rate (FCR), of 49.08% of annual compensation has been the contribution rate for employers since July 1, 2018. As shown on page 1 of the report, the amortization period to pay off the UAAL using the FCR of 49.08% is just over 30 years, which is a snapshot view of the UAAL as of the valuation date of June 30, 2024.
10. In addition, as shown on page 1 of the report, the Actuarially Determined Contribution (ADC) Rate for the 2024 valuation year is 53.09% of annual compensation and the ratio of the ADC to the FCR (53.09% to 49.08%) is calculated at 108.17% as of June 30, 2024. Per the Board's Funding Policy, which is provided in Schedule F, this actuarial metric is in the Yellow Status as the ratio is between 100% and 110%.
11. The projection results, shown beginning in Section IX, allow the Board to see a forecast of the System's funding progress over time, allow the Board to review the funding goals and benchmarks outlined in the funding policy, and provide the status of the metrics/targets in the Funding Policy that determines whether or not a contribution rate increase should be recommended. The objective of the current funding policy is to accumulate sufficient assets during a member's employment to fully finance the benefit the member receives throughout retirement. In order to reach that objective, some goals and benchmarks were established as follows:
  - Preservation of the defined benefit structure for providing lifetime benefits to the HSPRS' membership,
  - Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
  - Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution,
  - Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
  - Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of the policy using a "Signal Light" approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate.





## SECTION I – EXECUTIVE SUMMARY

12. For HSPRS, if any one of the following metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary shall determine and recommend to the Board an employer contribution rate increase to consider that is sufficient to get all three metrics back into the Green Signal Light status.

- Funded Ratio – defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100% funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047

- Cash flow as a percentage of assets – defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period





## SECTION I – EXECUTIVE SUMMARY

- Actuarially Determined Contribution (ADC) – defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of the funding policy:
  1. Actuarial Cost Method
  2. Asset Smoothing Method
  3. Amortization Method

The calculation of the ADC will be determined during the actuarial valuation. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by the Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate
Yellow	ADC ratio between 100% and 110% of fixed contribution rate
Red	ADC ratio above 110% of fixed contribution rate





## SECTION I – EXECUTIVE SUMMARY

13. A summary of the estimated metrics from the projection results for the next five years and in the long-term are shown in the following two tables below. More details will be shown beginning in Section IX but as you can see from the first table below, based on current funding levels, the funded ratio and cash flow percentage is expected to remain relatively stable while the ADC/FCR ratio increases over the next five years.

Valuation Year	UAAL (\$ in Thousands)	Funded Ratio	Cash Flow %	ADC/FCR Ratio
2024	\$231,089	65.5%	(4.07)%	108.2%
2025	\$227,882	66.7%	(3.94)%	108.0%
2026	\$241,334	66.5%	(4.03)%	113.9%
2027	\$239,689	66.4%	(4.10)%	114.9%
2028	\$237,927	67.3%	(4.18)%	116.0%
2029	\$238,865	67.8%	(4.21)%	118.1%

Metrics	2024 Baseline Projection	Status
Funding Ratio in 2047	80.5%	Yellow
Cash Flow as a Percentage of Assets	(4.42)%	Green
ADC/FCR Ratio from 2024 Valuation	108.2%	Yellow
ADC/FCR Ratio from 2025 Valuation	108.0%	Yellow

As shown above, none of the metrics are in the “Red Status” for the valuation and baseline projections. Therefore, we recommend to the PERS Board that the Fixed Contribution Rate (FCR) continue at a rate of 49.08% of annual compensation for HSPRS at this time. However, as you can see from the last column in the first table, the ADC/FCR Ratio is expected to increase to more than 110% within the next 5 years. Therefore, an increase in the Fixed Contribution Rate may be needed soon, especially if there is negative experience. The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is more or less than expected going forward.

14. The table on the following page provides a ten-year history of some pertinent figures.





## SECTION I – EXECUTIVE SUMMARY

### Comparative Schedule

Active Members					Retired Lives			Valuation Results (\$ thousands)			
Valuation Date June 30	Number	Payroll (\$ in thousands)	Average Salary	% increase from previous year	Number	Active/Retired Ratio	Annual Benefits (\$ thousands)	Benefits as % of Payroll	Actuarial Accrued Liability	Valuation Assets	UAAL
2015	518	\$25,505	\$49,237	(4.6)%	724	0.7	\$28,076.5	110.1%	\$477,803	\$316,149	\$161,654
2016	484	27,380	56,571	14.9	724	0.7	28,782.0	105.1	494,101	324,894	169,207
2017	470	28,845	61,373	8.5	726	0.6	29,563.8	102.5	497,992	339,114	158,878
2018	511	29,555	57,838	(5.8)	725	0.7	30,614.5	103.6	527,428	352,415	175,013
2019	522	31,811	60,941	5.4	734	0.7	31,814.9	100.0	541,925	362,591	179,334
2020	511	32,346	63,299	3.9	740	0.7	33,344.1	103.1	561,662	373,511	188,151
2021	478	29,780	62,302	(1.6)	761	0.6	35,443.9	119.0	573,134	403,748	169,386
2022	478	33,759	70,625	13.4	785	0.6	37,420.2	110.8	604,084	419,219	184,865
2023	507	34,846	68,729	(2.7)	792	0.6	38,778.1	111.3	657,219	429,909	227,310
2024	504	34,645	68,740	0.0	806	0.6	40,445.5	116.7	670,777	439,688	231,089





## SECTION II – MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the System as of June 30, 2024 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

### Active Members

Employers	Number of Employers	Number	Payroll	Group Averages		
				Salary	Age	Benefit Service
State Agencies	1	504	\$ 34,644,780	\$68,740	39.7	10.8

Of the 504 active members, 337 are vested and 167 are non-vested.

### Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages	
			Benefit	Age
Retirement	612	\$34,920,898	\$57,060	67.9
Disability	12	363,244	30,270	62.3
Survivor	182	5,161,312	28,359	73.6
Total in HSPRS	806	\$40,445,454	\$50,180	69.1

### Deferred Vested/Inactive Lives

Type of Member	No.	Annual Deferred Benefits	Outstanding Balance
Deferred Vested – Benefit Included	41	\$607,500	N/A
Inactive	35	N/A	\$395,082
Total in HSPRS	76	\$607,500	\$395,082

For the liability in this valuation, deferred vested participants with benefits provided are valued assuming a retirement age of 55 and for inactive members, account balances are multiplied by 1.50 to estimate liabilities and interest in the future.





## SECTION III – VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2024 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2023. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

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## SECTION III – VALUATION BALANCE SHEET



### VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE MISSISSIPPI HIGHWAY SAFETY PATROL RETIREMENT SYSTEM

	JUNE 30, 2024	JUNE 30, 2023
<b>ASSETS</b>		
Current actuarial value of assets:		
Annuity Savings Account	\$ 23,429,832	\$ 22,994,515
Annuity Reserve	55,646,623	52,715,398
Employers' Accumulation Account	<u>360,611,545</u>	<u>354,199,087</u>
Total current assets	\$ 439,688,000	\$ 429,909,000
Future member contributions to Annuity Savings Account	\$ 23,626,501	\$ 23,726,003
Prospective contributions to Employer's Accumulation Account		
Normal contributions	\$ 61,659,645	\$ 61,467,175
Unfunded actuarial accrued liability contributions	<u>231,088,761</u>	<u>227,309,721</u>
Total prospective contributions	<u>\$ 292,748,406</u>	<u>\$ 288,776,896</u>
Total assets	<u>\$ 756,062,907</u>	<u>\$ 742,411,899</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 502,105,082	\$ 480,925,045
Present value of benefits payable on account of inactive members for service rendered before the valuation date	5,675,555	11,683,975
Present value of benefits payable on account of active members	<u>\$ 248,282,270</u>	<u>\$ 249,802,879</u>
Total liabilities	<u>\$ 756,062,907</u>	<u>\$ 742,411,899</u>







## SECTION III – VALUATION BALANCE SHEET

### BREAKDOWN OF TOTAL AND ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2024

	Total Liability	Actuarial Accrued Liability
Active Members		
Retirement	\$ 235,458,437	\$ 161,535,020
Death	3,986,918	281,908
Disability	919,434	99,918
Termination	<u>7,917,481</u>	<u>1,079,278</u>
Total	\$ 248,282,270	\$ 162,996,124
Retirees		
Retirement	\$ 452,142,543	\$ 452,142,543
Survivor	45,717,733	45,717,733
Disability	<u>4,244,806</u>	<u>4,244,806</u>
Total	\$ 502,105,082	\$ 502,105,082
Deferred Vested Members	5,082,932	5,082,932
Inactive Members	<u>592,623</u>	<u>592,623</u>
Total Actuarial Values	\$ 756,062,907	\$ 670,776,761
Actuarial Value of Assets		<u>439,688,000</u>
Unfunded Actuarial Accrued Liability		\$ 231,088,761

The total liability is the present value of future benefits for all current members as of the valuation date. The accrued liability is the present value of benefits that have been accrued as of the valuation date. Since all inactive members and retirees have accrued their full benefits, the total liability and accrued liability are the same. For actives, the difference between the total liability and the accrued liability is the present value of all future accruals.





## SECTION IV – COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the System as of June 30, 2024.

### Total Assets

The Annuity Savings Account is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his or her accumulated contributions is transferred from the Annuity Savings Account to the Annuity Reserve. The Employer's Accumulation Account is the fund to which are credited employer contributions and investment income, and from which are paid all employer-provided benefits under the system. The assets credited to the Annuity Savings Account as of the valuation date, which represent the accumulated contributions of members to that date, amounted to \$23,429,832. The assets credited to the Annuity Reserve were \$55,646,623 and the assets credited to the Employer's Accumulation Account totaled \$360,611,545. Current actuarial assets as of the valuation date equaled the sum of these three funds, \$439,688,000. Future member contributions to the Annuity Savings Account were valued to be \$23,626,501. Prospective contributions to the Employer's Accumulation Account were calculated to be \$292,748,406 of which \$61,659,645 is attributable to service rendered after the valuation date (normal contributions) and \$231,088,761 is attributable to service rendered before the valuation date (unfunded actuarial accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the System to be \$756,062,907 as of June 30, 2024.

### Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled \$502,105,082 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to \$248,282,270. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$5,675,555.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the System to be \$756,062,907 as of June 30, 2024.

Section 25-11-7 of State law requires that active members contribute the current rate of 7.25% of annual compensation to the System.





## SECTION IV – COMMENTS ON VALUATION

Section 25-11-123(c) requires that the State contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the System. These individual contribution percentages are established in accordance with an actuarial valuation. Based on the funding policy adopted by the PERS Board in 2023, the PERS Board and the MHSPRS Administrative Board adopted an employer contribution rate of 49.08% of annual compensation effective July 1, 2018 and the amortization period is calculated on an open basis. The amortization period for the June 30, 2024 valuation is 33.0 years, compared to 30.6 years for the previous valuation. The primary reason for the increase in the amortization period is due to the contribution shortfall or difference between the Actuarially Determined Contribution (ADC) rate and the Fixed Contribution Rate (FCR).

There was a loss on the unfunded actuarial accrued liability for the fiscal year ending June 30, 2024 of approximately \$2,856.4 thousand (shown on the next page) which was due to contribution deficiency and turnover (retirements and withdrawals) from active service. These losses were offset by gains in investment experience and salary experience (increases in salaries less than expected).

See page 16 for a reconciliation of the amortization period. See Schedule E for a complete analysis of the Financial Experience.





## SECTION V – DERIVATION OF EXPERIENCE GAINS & LOSSES

Actual experience will never (except by coincidence) match exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Details on the derivation of the experience gain/(loss) for the years ended June 30, 2024 and June 30, 2023 are shown below.

	<u>2024 Valuation</u> <u>\$ Thousands</u>	<u>2023 Valuation</u> <u>\$ Thousands</u>
(1) UAAL* as of beginning of year	\$ 227,309.7	\$ 184,865.2
(2) Total normal cost from last valuation	8,900.9	7,492.7
(3) Total contributions	23,684.0	23,458.0
(4) Interest Rate (Beginning of Year)	7.00%	7.55%
(5) Interest accrual: $[(1) + (2)] \times (4) - [(3) \times ((4) / 2)]$	<u>15,705.8</u>	<u>13,637.5</u>
(6) Expected UAAL before changes: (1) + (2) – (3) + (5)	\$ 228,232.4	\$ 182,537.3
(7) Change due to plan amendments	0.0	0.0
(8) Change due to actuarial assumptions or methods	<u>0.0</u>	<u>42,719.5</u>
(9) Expected UAAL after changes: (6) + (7) + (8)	\$ 228,232.4	\$ 225,256.8
(10) Actual UAAL as of end of year	\$ 231,088.8	\$ 227,309.7
(11) Gain/(loss): (9) – (10)	\$ (2,856.4)	\$ (2,052.9)
(12) Gain/(loss) as percent of actuarial accrued liabilities at start of year.	(0.4)%	(0.3)%

\*Unfunded actuarial accrued liability.

<u>Valuation Date June 30</u>	<u>Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities</u>
2019	(0.6)%
2020	(1.9)
2021	3.8
2022	(0.7)
2023	(0.3)
2024	(0.4)





## SECTION VI – FIXED CONTRIBUTION RATE (FCR)

1. The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following table shows the rates of contribution payable by employers as determined from the present valuation and a comparison to the previous valuation results.

Contribution for	2024 Valuation	2023 Valuation
Investment Return Assumption	7.00%	7.00%
Total Normal Cost:		
Service retirement benefits	24.54%	24.32%
Disability benefits	0.24	0.24
Survivor benefits	1.08	1.05
Total	25.86%	25.61%
Less Member Contributions:	7.25%	7.25%
Employer Normal Cost	18.61%	18.36%
Administrative Expense Load	1.00%	1.00%
Total Employer Normal Cost Rate	19.61%	19.36%
Unfunded Actuarial Accrued Liabilities (33.0 year level % of payroll amortization*)	29.47%	29.72%
Total Employer Fixed Contribution Rate (FCR)	49.08%	49.08%

\* Amortization period a year ago was 30.6 years.

2. The current funding policy has set the employer contribution rate to 49.08% of payroll and kept the amortization period open-ended. Thirty-year projections are completed to determine if an increase or decrease in the employer contribution rate is warranted according to the metrics set forth in the funding policy. Please see Schedule F for the current funding policy.





## SECTION VI – FIXED CONTRIBUTION RATE (FCR)

3. The components of the change in the computed unfunded actuarial accrued liability amortization period from 30.6 years to 33.0 years are as follows:

Previously Reported Period	30.6 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	0.9
MVR fee assumption change	0.4
Assumption changes	0.0
Contribution Shortfall/(Excess)	2.1
Computed Period	33.0 years





## SECTION VI – FIXED CONTRIBUTION RATE (FCR)

The table below shows the development of the amortization period of 33.0 years (\$ in thousands):

Year	UAAL BOY	Amortization Payment	MVR Fees	UAAL EOY
1	\$231,089	\$10,654	\$3,300	\$232,915
2	232,915	10,936	3,300	234,579
3	234,579	11,226	3,300	236,063
4	236,063	11,524	3,300	237,344
5	237,344	11,829	3,300	238,402
6	238,402	12,143	3,300	239,212
7	239,212	12,464	3,300	239,749
8	239,749	12,795	3,300	239,984
9	239,984	13,134	3,300	239,888
10	239,888	13,482	3,300	239,427
11	239,427	13,839	3,300	238,568
12	238,568	14,206	3,300	237,272
13	237,272	14,582	3,300	235,499
14	235,499	14,969	3,300	233,205
15	233,205	15,365	3,300	230,343
16	230,343	15,773	3,300	226,863
17	226,863	16,190	3,300	222,710
18	222,710	16,620	3,300	217,827
19	217,827	17,060	3,300	212,149
20	212,149	17,512	3,300	205,610
21	205,610	17,976	3,300	198,136
22	198,136	18,452	3,300	189,651
23	189,651	18,941	3,300	180,070
24	180,070	19,443	3,300	169,302
25	169,302	19,959	3,300	157,252
26	157,252	20,488	3,300	143,816
27	143,816	21,030	3,300	128,882
28	128,882	21,588	3,300	112,330
29	112,330	22,160	3,300	94,032
30	94,032	22,747	3,300	73,851
31	73,851	23,350	3,300	51,639
32	51,639	23,969	3,300	27,236
33	27,236	24,604	3,300	473
34	473	25,256	3,300	(28,832)



## SECTION VII – ACTUARIALLY DETERMINED CONTRIBUTION RATE (ADC)



- One of the metrics in the Funding Policy, as shown in Schedule F, is to calculate the Actuarially Determined Contribution (ADC) based on the principal elements of the Amortization Method disclosed in the Funding Policy. The ratio of the ADC to the Fixed Contribution Rate (ADC/FCR) as set by this Funding Policy will be tested with each valuation. The Funding Policy provides that the unfunded actuarial accrued liability as of June 30, 2023 (Transitional UAAL) will be amortized as a level percentage of payroll over a closed 25-year period. In each subsequent valuation, all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation will combine to determine a New Incremental UAAL. Each New Incremental UAAL will be amortized as a level percentage of payroll over a closed 25-year period from the date it is established.
- The following table shows the components of the total Unfunded Actuarial Accrued Liability (UAAL) and the derivation of the UAAL Contribution Rate in accordance with the funding policy as of the valuation date:

**TOTAL UAAL AND UAAL CONTRIBUTION RATE**

Date Established	Original UAAL Balance	Remaining UAAL Balance	Remaining Amortization Period	Amortization Payment*
June 30, 2023	\$227,309,721	\$227,907,671	24 years	\$15,196,657
June 30, 2024	3,181,090	<u>3,181,090</u>	25 years	<u>207,180</u>
Total		\$231,088,761		\$15,403,837
MVR Fee Reduction				\$(3,300,000)
Total Amortization Payment				\$12,103,837
Estimated Payroll				\$36,152,335
UAAL Amortization Contribution Rate				33.48%

\* The amortization payment reflects the impact of the additional contributions from Senate Bill No. 2659 and House Bill No. 1015.





## SECTION VII – ACTUARIALLY DETERMINED CONTRIBUTION RATE (ADC)



3. The calculation of Actuarial Determined Contribution (ADC) for the past two valuations is shown below:

Funding Policy ADC Metric Test		
Valuation Date June 30	2024	2023
Actuarially Determined Contribution (ADC) rate		
Normal Cost*	19.61%	19.36%
Accrued liability	<u>33.48</u>	<u>32.26</u>
Total	53.09%	51.62%
Fixed Contribution Rate (FCR)	49.08%	49.08%
Ratio of ADC to FCR	108.17%	105.18%
Funding Policy Metric Status	Yellow	Yellow
Anticipated accrued liability payment period	24.3 years	25 years

\* Estimated budgeted administrative expenses are included in the normal cost rate

Since the Ratio of ADC to FCR is between 100% and 110% and the Metric Status is in the “Yellow Status” for the 2024 valuation, per the Funding Policy, we recommend no change in the Fixed Contribution Rate of 49.08% of annual compensation at this time. However, the ADC/FCR Ratio is approaching 110% and expected to increase to more than 110% within the next 5 years. Therefore, an increase in the Fixed Contribution Rate may be needed soon, especially if there is negative experience. The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is more or less than expected going forward.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

1. The following supplemental disclosure information is provided for informational purposes only. One such item is a distribution of the number of employees by type of membership, as follows:

### NUMBER OF ACTIVE AND RETIRED PARTICIPANTS AS OF JUNE 30, 2024

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	806
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	76
Active Participants	<u>504</u>
Total	1,386





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

2. Another such item is the schedule of funding progress as shown below. As can be seen in the table below, the funded ratio has remained in a narrow range over the previous 9 years with a decrease last year due to the assumption changes, including the change in the investment return assumption from 7.55% to 7.00%.

### SCHEDULE OF FUNDING PROGRESS (\$ Thousands)

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Funded Status (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/2015#	\$316,149	\$477,803	66.2%	\$161,654	\$25,505	633.8%
06/30/2016	324,894	494,101	65.8	169,207	27,380	618.0
06/30/2017#	339,114	497,992	68.1	158,878	28,845	550.8
06/30/2018	352,415	527,428	66.8	175,013	29,555	592.2
06/30/2019#	362,591	541,925	66.9	179,334	31,811	563.7
06/30/2020	373,511	561,662	66.5	188,151	32,346	581.7
06/30/2021#	403,748	573,134	70.4	169,386	29,780	568.8
06/30/2022	419,219	604,084	69.4	184,865	33,759	547.6
06/30/2023#	429,909	657,219	65.4	227,310	34,846	652.3
06/30/2024	439,688	670,777	65.5	231,089	34,645	667.0

# After change in actuarial assumptions.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

3. Additional information as of the latest valuation that went into the calculation of the Actuarially Determined Contribution (ADC) are as follows:

Valuation date	6/30/2024
Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period on ADC Basis	24.3 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return (discount rate)*	7.00%
Projected salary increases*	3.50% - 5.00%
Cost-of-living adjustments	3.00% per annum

*\* Includes price inflation at 2.40%*





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Solvency Tests (\$ in Thousands)

Valuation Date	Actuarial Accrued Liabilities for			Net Assets Available for Benefits	Portions of Accrued Liabilities Covered by Assets		
	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion		(1)	(2)	(3)
6/30/2015	\$24,827	\$338,459	\$114,517	\$316,149	100.0%	86.1%	0.0%
6/30/2016	25,791	343,635	124,675	324,894	100.0	87.0	0.0
6/30/2017	26,922	349,850	121,219	339,114	100.0	89.2	0.0
6/30/2018	27,581	358,342	141,506	352,415	100.0	90.6	0.0
6/30/2019	27,244	372,526	142,156	362,591	100.0	90.0	0.0
6/30/2020	26,382	389,269	146,010	373,511	100.0	89.2	0.0
6/30/2021	24,844	417,468	130,821	403,748	100.0	90.8	0.0
6/30/2022	23,951	442,965	137,168	419,219	100.0	89.2	0.0
6/30/2023	22,995	480,925	153,300	429,909	100.0	84.6	0.0
6/30/2024	23,430	502,105	145,242	439,688	100.0	82.9	0.0

As can be seen from the table above, the HSPRS plan assets currently cover 100% of the active member contribution account balances as of the valuation date but only cover about 82.9% of the retiree liability. There remains zero assets to cover any employer financed active liabilities.



## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION



### Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members		Annual Average Pay	% Increase in Average Pay
		Number	Annual Payroll		
2015	1	518	\$25,504,676	\$49,237	(4.6)%
2016	1	484	27,380,162	56,571	14.9
2017	1	470	28,845,478	61,373	8.5
2018	1	511	29,555,411	57,838	(5.8)
2019	1	522	31,811,231	60,941	5.4
2020	1	511	32,345,730	63,299	3.9
2021	1	478	29,780,428	62,302	(1.6)
2022	1	478	33,758,750	70,625	13.4
2023	1	507	34,845,681	68,729	(2.7)
2024	1	504	34,644,780	68,740	0.0

### Schedule of Number of Retirants Added To and Removed From Rolls Last Ten Fiscal Years

Item	Fiscal Year Ended June 30									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning of Year	720	724	724	726	725	734	740	761	785	792
Added	22	26	22	17	28	21	39	35	26	29
Removed	(18)	(26)	(20)	(18)	(19)	(15)	(18)	(11)	(19)	(15)
End of Year	724	724	726	725	734	740	761	785	792	806

\*See Schedule D for a breakdown by type of retirement.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

**Schedule of Benefit Payments Added To and Removed From Rolls  
Last Seven Fiscal Years**

Year Ending	2018	2019	2020	2021	2022	2023	2024
Beginning of Year	\$29,563,842	\$30,614,457	\$31,814,897	\$33,344,108	\$35,443,890	\$37,420,188	\$38,778,092
Added	787,728	1,186,864	1,202,084	2,196,435	2,117,341	1,372,960	1,758,088
Removed	(494,512)	(812,457)	(613,918)	(1,029,029)	(1,072,205)	(1,073,822)	(1,142,543)
Benefit increase due to annual COLA	757,399	826,033	941,045	932,376	931,161	1,058,766	1,051,817
Benefit increase due to plan amendments	0	0	0	0	0	0	0
End of Year	\$30,614,457	\$31,814,897	\$33,344,108	\$35,443,890	\$37,420,188	\$38,778,092	\$40,445,454





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Average Benefit Payments

Years of Credited Service									
	0-9	10-14	15-19	20-24	25	26-29	30	31+	TOTAL
July 1, 2023 to June 30, 2024									
Average Monthly Benefit		\$749.20	\$2,972.46	\$4,276.05	\$4,282.52	\$5,347.35	\$7,534.58	\$8,714.30	\$4,287.33
Average Final Salary		\$30,569.22	\$72,664.46	\$86,439.13	\$73,197.60	\$93,369.35	\$117,532.44	\$132,503.28	\$83,130.15
Number of Active Retirants		2	6	11	1	7	1	1	29
July 1, 2022 to June 30, 2023									
Average Monthly Benefit	\$957.08		\$2,656.24	\$3,894.76		\$4,182.44	\$5,379.02		\$3,854.25
Average Final Salary	\$56,835.36		\$66,853.44	\$55,733.13		\$70,713.58	\$99,199.52		\$64,061.35
Number of Active Retirants	1		2	12		10	1		26
July 1, 2021 to June 30, 2022									
Average Monthly Benefit			\$2,755.98	\$3,826.83	\$4,384.68	\$5,445.38		\$5,345.90	\$4,418.34
Average Final Salary			\$68,698.46	\$54,434.52	\$54,702.08	\$77,452.96		\$84,017.5	\$67,728.47
Number of Active Retirants			6	8	6	10		5	35
July 1, 2020 to June 30, 2021									
Average Monthly Benefit		\$2,073.24	\$2,071.18	\$3,751.11	\$5,041.93	\$4,935.28	\$4,757.01	\$6,336.18	\$4,693.24
Average Final Salary		\$63,446.28	\$85,505.28	\$46,027.48	\$61,917.84	\$70,663.19	\$24,044.20	\$59,803.05	\$58,435.91
Number of Active Retirants		1	2	10	3	12	3	8	39
July 1, 2019 to June 30, 2020									
Average Monthly Benefit		\$2,246.54	\$2,672.54	\$3,796.62	\$3,751.11			\$6,126.68	\$4,770.17
Average Final Salary		\$70,328.04	\$72,279.84	\$73,364.66	\$72,571.38			\$91,719.95	\$81,757.91
Number of Active Retirants		1	1	5	4			10	21







## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Average Benefit Payments

	Years of Credited Service							TOTAL
	0-9	10-15	16-20	21-24	25	26-29	30	
July 1, 2018 to June 30, 2019								
Average Monthly Benefit		\$455.07	\$2,111.54	\$3,374.59	\$3,943.38	\$4,902.10	\$5,823.91	\$3,532.33
Average Final Salary		\$56,573.88	\$53,477.12	\$77,543.75	\$75,695.64	\$84,403.44	\$93,541.20	\$72,182.33
Number of Active Retirants		3	6	9	1	1	1	28
July 1, 2017 to June 30, 2018								
Average Monthly Benefit		\$1,307.49	\$2,490.53	\$3,100.20		\$3,562.34	\$4,826.30	\$3,976.96
Average Final Salary		\$31,379.76	\$68,832.18	\$60,334.20		\$68,125.68	\$77,928.36	\$68,584.98
Number of Active Retirants		1	2	4		1	2	17
July 1, 2016 to June 30, 2017								
Average Monthly Benefit	\$337.90	\$996.04	\$556.17	\$2,927.97	\$1,186.14	\$2,670.20	\$4,606.06	\$2,716.76
Average Final Salary	\$19,659.72	\$45,533.40	\$22,015.92	\$67,682.80	\$28,912.20	\$54,518.06	\$72,101.25	\$55,208.79
Number of Active Retirants	1	1	1	6	2	6	4	22
July 1, 2015 to June 30, 2016								
Average Monthly Benefit	\$314.65			\$2,078.23		\$3,012.97	\$1,729.45	\$2,672.66
Average Final Salary	\$53,305.68			\$45,947.58		\$37,841.45	\$50,692.08	\$43,534.73
Number of Active Retirants	3			6		13	1	26
July 1, 2014 to June 30, 2015								
Average Monthly Benefit			\$1,831.19	\$1,719.04	\$1,978.03	\$4,054.02	\$4,758.40	\$3,371.84
Average Final Salary			\$45,652.04	\$30,832.33	\$36,844.69	\$51,499.73	\$67,377.63	\$49,438.65
Number of Active Retirants			3	3	2	10	4	22





## SECTION IX – PROJECTION RESULTS

Annual actuarial valuations are performed for HSPRS which re-measure the assets and liabilities and the adequacy of the contribution rate. Actuarial projections are also performed every year with sensitivity testing of several factors. HSPRS also has experience studies performed every two years to analyze the discrepancies between actuarial assumptions and actual experience and determine if the actuarial assumptions need to be changed. Annual actuarial valuations and projections and periodic experience studies are practical ways to monitor and reassess risk.

As mentioned earlier in the report, the intended purpose of the projection results is to help assess the Plan's funding progress and to provide information to decision makers to help ensure that the applicable pension liabilities and funding mechanisms are managed in a manner that promotes sustainability.

The projection process should be viewed as an enhancement to the actuarial valuation control cycle by providing additional evaluation metrics to assess the need for further, in-depth analysis of the risks to the Plan's sustainability. The actuarial valuation control cycle is a key component of managing a long-term liability whose ultimate value is based upon uncertain future events. As the ultimate value of future cash flows cannot be predicted with certainty, pension liabilities are managed in the short-term through the continuous monitoring of economic and demographic assumptions, with a keen eye on the identification, measurement, and management of risks.

The projection process, like other actuarial modeling, is not intended to provide absolute results. The intended purpose of the projection process is to identify anticipated trends and to compare various outcomes, under a given methodology, rather than predicting certain future events. The results produced by the projection process do not predict the financial condition of the Plan or the Plan's ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the Plan. Because actual experience will not unfold exactly as expected, actual results can be expected to differ from the results presented herein. To the extent actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than the expected outcome indicated in this report.





## SECTION IX – PROJECTION RESULTS

### SPECIAL ASSUMPTIONS

In addition to the regular valuation assumptions used in performing the annual actuarial valuations of HSPRS, additional assumptions must be made that are unique to projections. The first of these is what, if any, change in the overall active membership will be anticipated. For this projection study, it was assumed that the number of active members would remain static over the 30-year projection period.

But since we assume active members will leave the system through termination, death, disability, or retirement, we need to make some assumptions as to the composition of new hires that will replace departing members in order to maintain the membership at a constant number. The new entrant profile we developed was based on the new hires in the last three years prior to the projection start date of June 30, 2024. The new entrant profile is summarized in the table below.

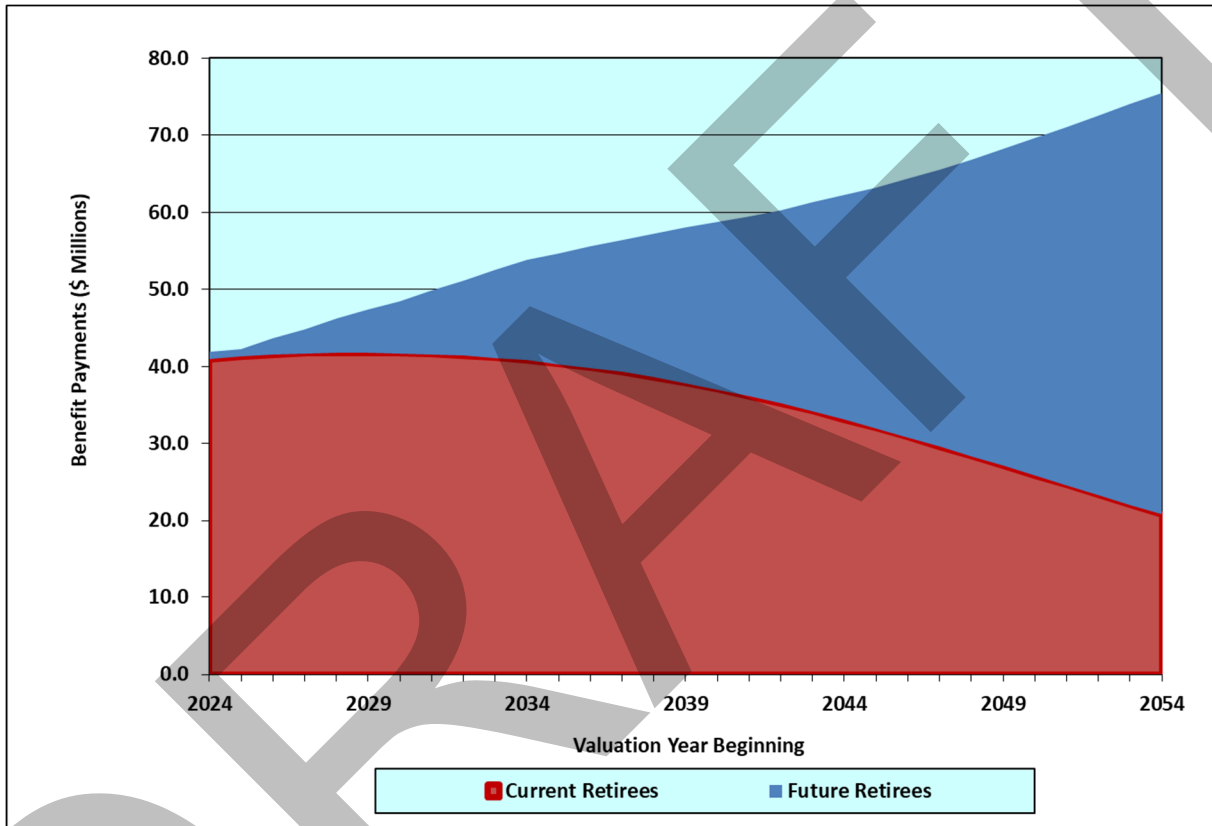
Age	Average Pay	Percent Male	Weight
22	\$52,000	100%	14%
25	\$52,000	93%	29%
28	\$52,000	93%	18%
32	\$52,000	88%	22%
37	\$52,000	100%	6%
43	\$52,000	90%	7%
49	\$52,000	100%	4%





## SECTION IX – PROJECTION RESULTS

For the projection results presented in this section of the report, it was further assumed that the benefit structure as it exists on June 30, 2024 would remain in place for the following 30 years. The following graph shows the projection of benefit payments of HSPRS members. The red area of the graph represents the benefit payments for current retirees and the blue area represents the benefit payments for any future retirees. HSPRS currently pays approximately \$41 million in benefit payments to its retirees but over the 30-year period, that amount is expected to nearly double.





## SECTION IX – PROJECTION RESULTS

### FUTURE MEMBERSHIP

The following chart and graph show the headcounts of active participants and retired members over the projection period. The actives are broken down into those existing as of June 30, 2024 and those who are hired after June 30, 2024. For baseline projection purposes, we have continued the active membership at its current population of 504 active members over the projected period. In Section XI of this report, we provide some sensitivity analysis around this static assumption.

Member	2024	2029	2034	2044	2047	2054
Active – Existing Employees	504	372	260	106	65	9
Active – New Entrants	0	132	244	398	439	495
Retirees	612	693	783	926	949	1,035
Beneficiaries	182	196	210	207	207	207
Disableds	12	9	9	11	12	15
Vested Terminations	41	35	47	62	67	72
Total	1,351	1,437	1,553	1,710	1,739	1,833





## SECTION IX – PROJECTION RESULTS

### PROJECTION RESULTS

The baseline projection results shown below use the same actuarial assumptions as used the June 30, 2024 actuarial valuation report. Please note that contributions from SB 2659 and HB 1015 are assumed to continue to provide an additional \$3,300,000 annually throughout the projection period under all scenarios. These dollars are in addition to the employer contributions as a percentage of payroll shown below. In addition, the projection results using a different long-term investment return assumptions for future valuations (6.50%) is included.

#### Baseline Projection Results (7.00%) (\$ in Thousands)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$34,645	\$39,030	\$42,995	\$54,821	\$58,761	\$69,327
UAL	231,089	238,865	240,941	219,857	201,740	124,763
Normal Cost Rate	19.61%	20.20%	20.61%	20.95%	21.03%	21.26%
UAL Rate	29.47%	28.88%	28.47%	28.13%	28.05%	27.82%
FCR Rate	49.08%	49.08%	49.08%	49.08%	49.08%	49.08%
Funded Ratio	65.5%	67.8%	70.3%	77.4%	80.5%	89.6%
Amortization Period	33 years	28 years	25 years	16 years	13 years	6 years
ADC	53.09%	57.97%	63.84%	79.61%	86.92%	41.45%
ADC Ratio	108.2%	118.1%	130.1%	162.3%	177.1%	84.4%
Cash Flow %	(4.1)%	(4.2)%	(4.4)%	(3.6)%	(3.3)%	(2.9)%

#### Projection Results Assuming 6.50% (Long-Term Investment Return) (\$ in Thousands)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$34,645	\$39,030	\$42,995	\$54,821	\$58,761	\$69,327
UAL	271,438	295,779	321,390	381,268	400,755	448,983
Normal Cost Rate	23.26%	23.90%	24.37%	24.78%	24.88%	25.17%
UAL Rate	25.82%	25.18%	24.71%	24.30%	24.20%	23.91%
FCR Rate	49.08%	49.08%	49.08%	49.08%	49.08%	49.08%
Funded Ratio	61.8%	62.4%	62.6%	63.0%	63.4%	64.7%
Amortization Period	45 years	49 years	52 years	51 years	50 years	48 years
ADC	61.68%	69.82%	80.17%	109.30%	122.44%	73.42%
ADC Ratio	125.7%	142.3%	163.4%	222.7%	249.5%	149.6%
Cash Flow %	(4.1)%	(4.3)%	(4.7)%	(4.1)%	(4.0)%	(3.8)%





## SECTION IX – PROJECTION RESULTS

The first graph that follows shows the projection of the Unfunded Accrued Liability (UAL), Actuarial Value of Assets and the Funded Ratio under the baseline valuation (assuming 7.00%) from the amounts shown in the baseline table on the previous page. As you can see from the graph, under the current assumptions, the funded ratio is expected to slightly increase each year during the projection period. However, it only reaches about 90% by the end of the projection period.

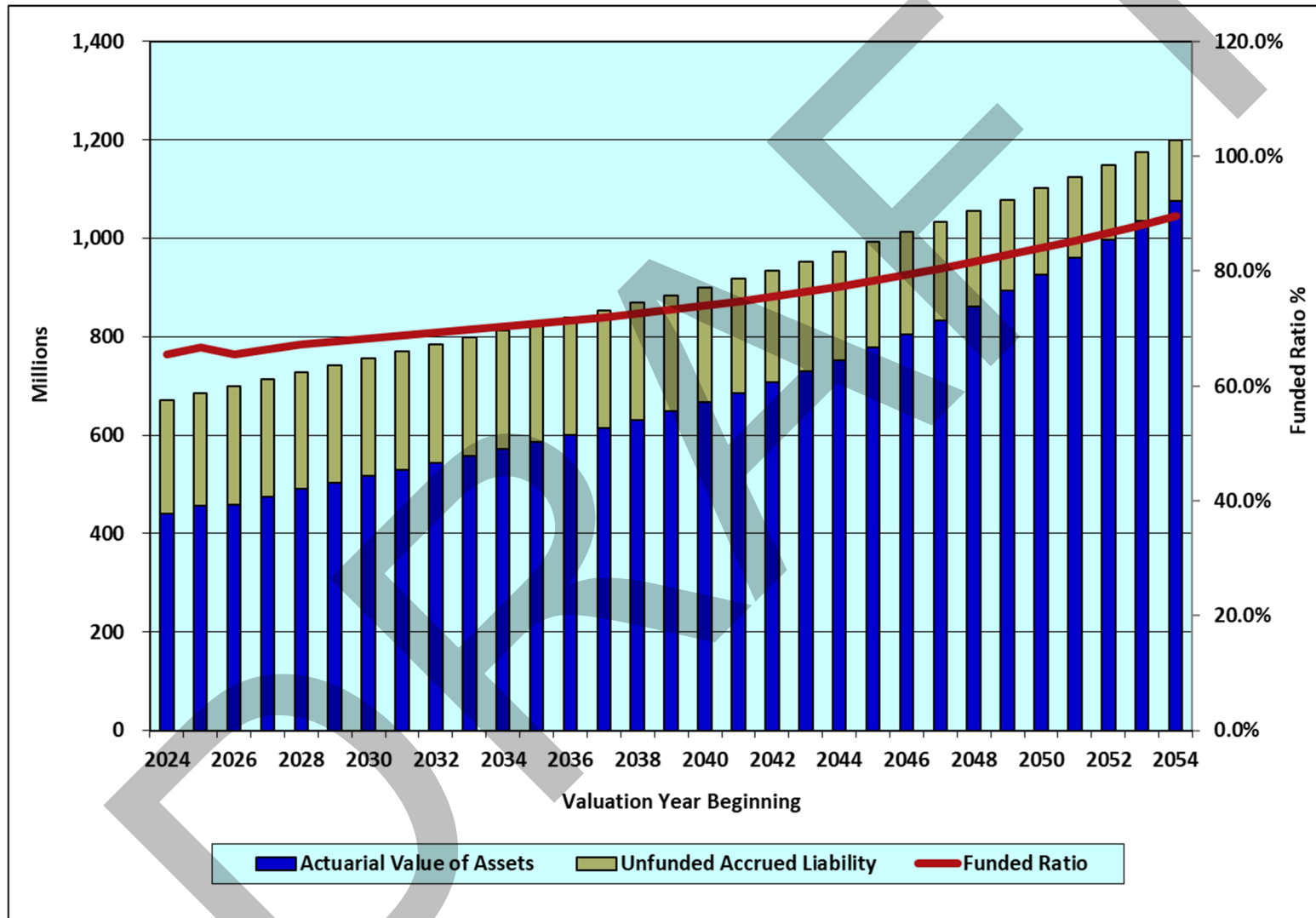
The second graph shows the projection of the calculated Actuarially Determined Contribution (ADC) based on the Board's Funding Policy and the current Fixed Contribution Rate (FCR) of 49.08% under the baseline valuation. As you can see from the graph, the ADC is expected to increase even further for the remaining projection period, as the valuation results continue to include contribution deficiency shortfalls due to the difference between the ADC and FCR. The drop in the ADC near the end of the projection period is a result of the initial 2023 UAL base of \$227 Million being paid off, based on the closed amortization period per the Board's Funding Policy.



## SECTION IX – PROJECTION RESULTS



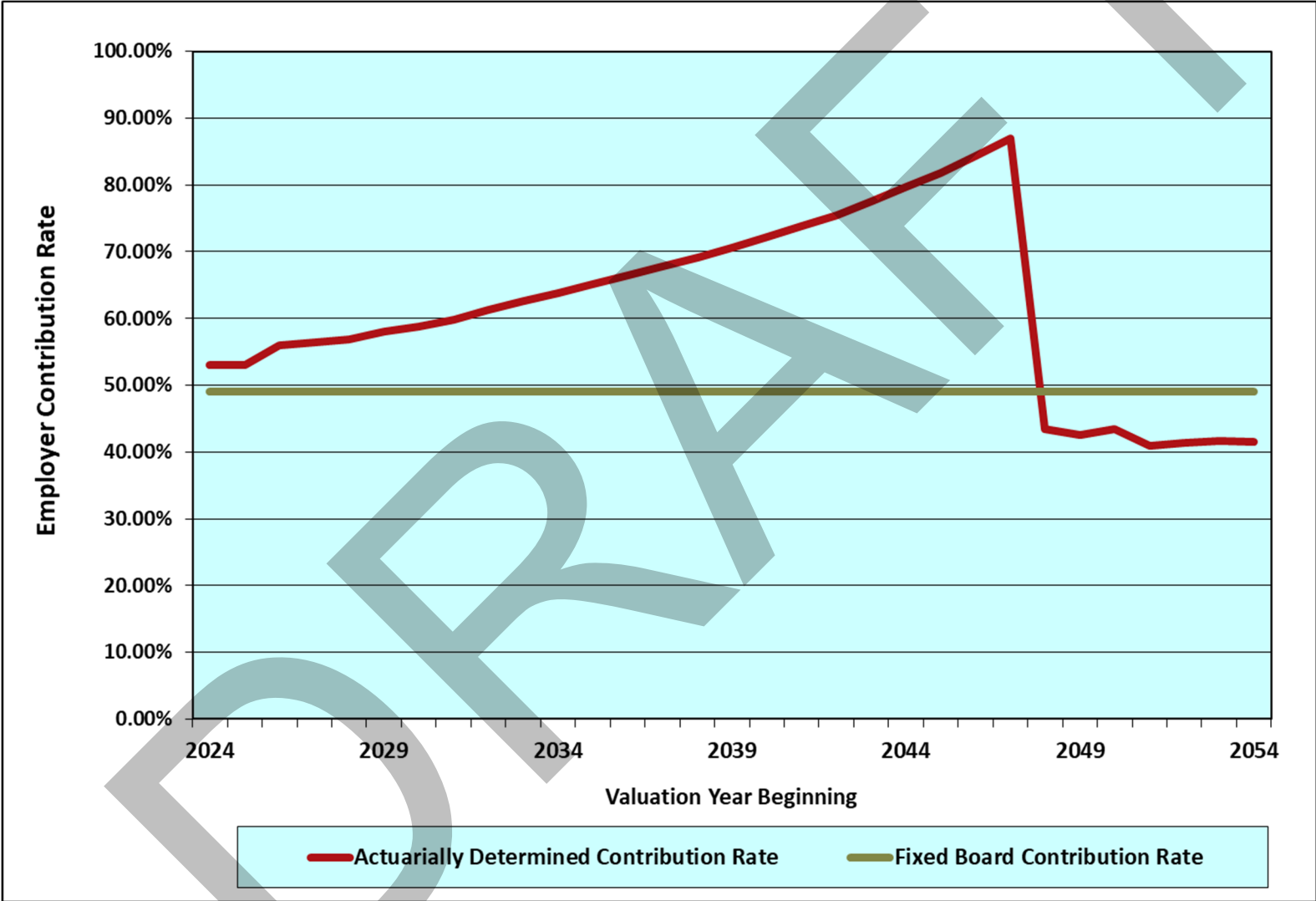
Mississippi PERS – HSPRS Plan  
30 Year Projection of Funded Ratio on Actuarial Asset Value  
Based on June 30, 2024 Valuation Results







Mississippi PERS – HSPRS Plan  
30 Year Projection of Employer Contribution Rates  
Based on June 30, 2024 Valuation Results





## SECTION X – CASH FLOW PROJECTIONS

### CASH FLOW PROJECTIONS

The funded ratio is the primary measure of funded status of a pension plan and, thereby, the most common measurement used for drawing conclusions on funding progress. The funded ratio is the ratio of the actuarial value of assets to the actuarial or accrued liability of the system as calculated by the funding method used in developing system contribution levels. When using the funded ratio in assessing trends over several valuations, we recommend that the basis for determining both the assets and liabilities in the ratio are taken into consideration and reasonable efforts are made to adjust the ratio to reflect these differences when they are known. On a consistent basis, an increasing funded ratio would typically indicate progress in meeting the obligations of the system. In most cases, other measures should also be considered in a trend assessment. These may include the trend in the length of the amortization period, the required contribution rate, percentage of required contributions funded, and the unfunded actuarial liability as a percentage of payroll. Focusing solely on any one measure as the indication of funding progress is an over-simplification of a complex and dynamic system.

Another of those additional metrics is an outlook on the cash flow as a percentage of assets for the System. Most retirement systems are funded with an advance-funding mechanism, meaning contributions and investment earnings are earned during a member's active lifetime in order to pay for the benefit payments during his retirement years. Many mature retirement systems, like HSPRS, have negative cash flow, where benefit payments paid out of the trust are more than the contributions being collected by employers and employees.

For the fiscal year ending June 30, 2025, we are projecting HSPRS to have a negative cash flow of approximately \$17.8 Million (benefit payments of \$41.9 Million and contributions of \$24.1 Million). With a market value of assets of \$438 Million as of June 30, 2023, the cash flow as a percentage of assets is estimated to be negative 4.07% for the 2025 fiscal year. While the market value of assets is assumed to earn 7.00% each year, the difference between the investment return assumption and the negative cash flow percentage is positive, meaning assets are projected to grow for the 2025 fiscal year. When assets do not earn a positive return enough to cover this negative cash flow percentage, assets are expected to decline for the year. If the negative cash flow percentage does not grow more than the assumed investment return assumption, the System's assets will continue to increase, and sustainability of the plan may be achieved.





## SECTION X – CASH FLOW PROJECTIONS

The tables on the following pages demonstrate the open group projection of cash flow on (1), the baseline assumption, and then (2), a sensitivity analysis, using a one-year return of negative 5.00% for the fiscal year ending June 30, 2025. These results demonstrate the projection of this metric if HSPRS experiences one significant bad investment year in one of the next five years without a correction in the market. As can be seen from the table on page 38, the cash flow as a percentage of market value of assets does not at any point get less than negative 4.42% on the baseline assumptions, meaning that HSPRS assets should continue to increase as long as all baseline actuarial assumptions are met.

If there is a significant negative investment experience in one of the next five years (as seen on the table on page 39), the negative cash flow will be less than the baseline cash flow, however, HSPRS will not have a decrease in their assets at any point during the remaining projection period.

This metric will continue to be monitored as part of the funding policy under the baseline assumptions to ensure the continued growth of HSPRS assets during the projection period.





## SECTION X – CASH FLOW PROJECTIONS

Mississippi PERS  
30-year Open Group Projection of Cash Flow  
HSPRS Plan  
Based on June 30, 2024 Valuation Results

Projection of Cash Flow

Contribution Methodology:  
Investment Return Methodology:

Employee and Employer Contributions  
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2024	7.00%	36,152,335	438,476,000	24,071,903	(41,930,754)	-4.07%	30,078,832	12,219,981	450,695,981	2025
2025	7.00%	36,905,419	450,695,981	24,504,599	(42,283,577)	-3.94%	30,936,979	13,158,001	463,853,982	2026
2026	7.00%	37,655,549	463,853,982	24,935,598	(43,611,418)	-4.03%	31,827,180	13,151,361	477,005,342	2027
2027	7.00%	38,340,570	477,005,342	25,329,188	(44,865,813)	-4.10%	32,718,157	13,181,532	490,186,874	2028
2028	7.00%	39,029,625	490,186,874	25,725,096	(46,200,945)	-4.18%	33,608,547	13,132,698	503,319,572	2029
2029	7.00%	39,752,538	503,319,572	26,140,457	(47,344,146)	-4.21%	34,502,793	13,299,104	516,618,675	2030
2030	7.00%	40,709,167	516,618,675	26,690,103	(48,426,761)	-4.21%	35,415,391	13,678,733	530,297,409	2031
2031	7.00%	41,584,889	530,297,409	27,193,263	(49,794,459)	-4.26%	36,343,156	13,741,960	544,039,369	2032
2032	7.00%	42,243,148	544,039,369	27,571,477	(51,184,313)	-4.34%	37,270,284	13,657,447	557,696,816	2033
2033	7.00%	42,994,666	557,696,816	28,003,273	(52,487,701)	-4.39%	38,196,316	13,711,888	571,408,704	2034
2034	7.00%	43,878,753	571,408,704	28,511,240	(53,784,451)	-4.42%	39,129,008	13,855,797	585,264,501	2035
2035	7.00%	44,820,329	585,264,501	29,052,237	(54,691,509)	-4.38%	40,086,318	14,447,046	599,711,547	2036
2036	7.00%	45,972,737	599,711,547	29,714,372	(55,631,237)	-4.32%	41,088,060	15,171,194	614,882,741	2037
2037	7.00%	47,091,081	614,882,741	30,356,934	(56,452,546)	-4.24%	42,143,893	16,048,281	630,931,022	2038
2038	7.00%	48,374,299	630,931,022	31,094,227	(57,268,828)	-4.15%	43,264,555	17,089,955	648,020,977	2039
2039	7.00%	49,571,183	648,020,977	31,781,916	(58,029,131)	-4.05%	44,458,353	18,211,138	666,232,115	2040
2040	7.00%	50,838,885	666,232,115	32,510,295	(58,749,983)	-3.94%	45,733,392	19,493,704	685,725,819	2041
2041	7.00%	52,184,564	685,725,819	33,283,476	(59,482,620)	-3.82%	47,099,346	20,900,203	706,626,021	2042
2042	7.00%	53,528,120	706,626,021	34,055,438	(60,296,129)	-3.71%	48,560,931	22,320,240	728,946,261	2043
2043	7.00%	54,820,952	728,946,261	34,798,255	(61,331,234)	-3.64%	50,113,290	23,580,312	752,526,572	2044
2044	7.00%	56,030,632	752,526,572	35,493,296	(62,222,201)	-3.55%	51,757,171	25,028,266	777,554,839	2045
2045	7.00%	57,433,998	777,554,839	36,299,622	(63,223,393)	-3.46%	53,502,444	26,578,673	804,133,512	2046
2046	7.00%	58,760,841	804,133,512	37,061,981	(64,390,871)	-3.40%	55,349,012	28,020,122	832,153,634	2047
2047	7.00%	60,072,853	832,153,634	37,815,819	(65,567,003)	-3.33%	57,295,890	29,544,706	861,698,340	2048
2048	7.00%	61,513,877	861,698,340	38,643,782	(66,790,613)	-3.27%	59,350,406	31,203,575	892,901,915	2049
2049	7.00%	62,937,876	892,901,915	39,461,964	(68,227,280)	-3.22%	61,513,376	32,748,060	925,649,975	2050
2050	7.00%	64,409,495	925,649,975	40,307,506	(69,565,974)	-3.16%	63,788,772	34,530,304	960,180,279	2051
2051	7.00%	66,019,923	960,180,279	41,232,803	(71,069,591)	-3.11%	66,185,994	36,349,206	996,529,485	2052
2052	7.00%	67,616,664	996,529,485	42,150,236	(72,546,969)	-3.05%	68,711,172	38,314,439	1,034,843,924	2053
2053	7.00%	69,327,460	1,034,843,924	43,133,201	(74,019,837)	-2.98%	71,376,326	40,489,690	1,075,333,614	2054
2054	7.00%	71,068,998	1,075,333,614	44,133,830	(75,526,610)	-2.92%	74,193,189	42,800,409	1,118,134,023	2055





## SECTION X – CASH FLOW PROJECTIONS

### Mississippi PERS 30-year Open Group Projection of Cash Flow HSPRS Plan Based on June 30, 2024 Valuation Results

#### Projection of Cash Flow

Contribution Methodology:  
Investment Return Methodology:

Employee and Employer Contributions  
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2024	-5.00%	36,152,335	438,476,000	24,071,903	(41,930,754)	-4.07%	(21,471,604)	(39,330,455)	399,145,545	2025
2025	7.00%	36,905,419	399,145,545	24,504,599	(42,283,577)	-4.45%	27,328,448	9,549,470	408,695,015	2026
2026	7.00%	37,655,549	408,695,015	24,935,598	(43,611,418)	-4.57%	27,966,053	9,290,234	417,985,248	2027
2027	7.00%	38,340,570	417,985,248	25,329,188	(44,865,813)	-4.67%	28,586,750	9,050,125	427,035,373	2028
2028	7.00%	39,029,625	427,035,373	25,725,096	(46,200,945)	-4.79%	29,187,942	8,712,093	435,747,466	2029
2029	7.00%	39,752,538	435,747,466	26,140,457	(47,344,146)	-4.87%	29,772,745	8,569,056	444,316,521	2030
2030	7.00%	40,709,167	444,316,521	26,690,103	(48,426,761)	-4.89%	30,354,241	8,617,583	452,934,105	2031
2031	7.00%	41,584,889	452,934,105	27,193,263	(49,794,459)	-4.99%	30,927,724	8,326,528	461,260,633	2032
2032	7.00%	42,243,148	461,260,633	27,571,477	(51,184,313)	-5.12%	31,475,773	7,862,936	469,123,569	2033
2033	7.00%	42,994,666	469,123,569	28,003,273	(52,487,701)	-5.22%	31,996,189	7,511,761	476,635,330	2034
2034	7.00%	43,878,753	476,635,330	28,511,240	(53,784,451)	-5.30%	32,494,871	7,221,660	483,856,990	2035
2035	7.00%	44,820,329	483,856,990	29,052,237	(54,691,509)	-5.30%	32,987,792	7,348,520	491,205,510	2036
2036	7.00%	45,972,737	491,205,510	29,714,372	(55,631,237)	-5.28%	33,492,637	7,575,771	498,781,281	2037
2037	7.00%	47,091,081	498,781,281	30,356,934	(56,452,546)	-5.23%	34,016,791	7,921,179	506,702,460	2038
2038	7.00%	48,374,299	506,702,460	31,094,227	(57,268,828)	-5.17%	34,568,555	8,393,955	515,096,415	2039
2039	7.00%	49,571,183	515,096,415	31,781,916	(58,029,131)	-5.10%	35,153,634	8,906,419	524,002,834	2040
2040	7.00%	50,838,885	524,002,834	32,510,295	(58,749,983)	-5.01%	35,777,342	9,537,654	533,540,488	2041
2041	7.00%	52,184,564	533,540,488	33,283,476	(59,482,620)	-4.91%	36,446,373	10,247,230	543,787,717	2042
2042	7.00%	53,528,120	543,787,717	34,055,438	(60,296,129)	-4.83%	37,162,249	10,921,558	554,709,275	2043
2043	7.00%	54,820,952	554,709,275	34,798,255	(61,331,234)	-4.78%	37,916,701	11,383,723	566,092,997	2044
2044	7.00%	56,030,632	566,092,997	35,493,296	(62,222,201)	-4.72%	38,706,821	11,977,916	578,070,914	2045
2045	7.00%	57,433,998	578,070,914	36,299,622	(63,223,393)	-4.66%	39,538,570	12,614,799	590,685,713	2046
2046	7.00%	58,760,841	590,685,713	37,061,981	(64,390,871)	-4.63%	40,407,666	13,078,776	603,764,489	2047
2047	7.00%	60,072,853	603,764,489	37,815,819	(65,567,003)	-4.60%	41,308,650	13,557,466	617,321,955	2048
2048	7.00%	61,513,877	617,321,955	38,643,782	(66,790,613)	-4.56%	42,244,059	14,097,228	631,419,183	2049
2049	7.00%	62,937,876	631,419,183	39,461,964	(68,227,280)	-4.56%	43,209,585	14,444,269	645,863,452	2050
2050	7.00%	64,409,495	645,863,452	40,307,506	(69,565,974)	-4.53%	44,203,715	14,945,247	660,808,699	2051
2051	7.00%	66,019,923	660,808,699	41,232,803	(71,069,591)	-4.52%	45,229,983	15,393,195	676,201,894	2052
2052	7.00%	67,616,664	676,201,894	42,150,236	(72,546,969)	-4.50%	46,288,240	15,891,507	692,093,401	2053
2053	7.00%	69,327,460	692,093,401	43,133,201	(74,019,837)	-4.46%	47,383,789	16,497,153	708,590,554	2054
2054	7.00%	71,068,998	708,590,554	44,133,830	(75,526,610)	-4.43%	48,521,175	17,128,395	725,718,949	2055





## SECTION XI – SENSITIVITY ANALYSIS

### SENSITIVITY ANALYSIS

Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions. The primary areas of risk in this actuarial valuation are.

- Investment Risk – the potential that actual investment returns will be different than expected.
- Longevity and Other Demographic Risks – the potential that mortality or other demographic experience will be different than expected.
- Interest Rate Risk – to the extent market rates of interest affect the expected return on assets, there is a risk of changing to the discount rate which determines the present value of liabilities and actuarial valuation results.
- Contribution Risk – the potential that actual contributions are different than the fixed contribution rates.
- Liquidation Risk - the potential that the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds.





## SECTION XI – SENSITIVITY ANALYSIS

### Investment Risk

In this section of the report, we will demonstrate the variability in achieving funding goals based on sensitivity around the three key variables listed above. Earlier in this section, we reviewed the projections if the long-term investment return assumption was lowered to rates below 7.00% (6.50%). In this section, we keep the long-term investment return assumption at 7.00% but review the sensitivity of short-term investment returns as a single year event (and then 7.00% for all years thereafter) and simulate the next 10-year periods of returns (and then 7.00% for all years thereafter).

#### Projected Funded Ratios in 2047

Single Year Event	2024 Valuation	2023 Valuation
• 1.00% for the next fiscal year	69.4%	67.5%
• 3.00% for the next fiscal year	73.1%	71.2%
• 5.00% for the next fiscal year	76.8%	74.9%
• <b>7.00% for the next fiscal year (Baseline)</b>	<b>80.5%</b>	<b>78.6%</b>
• 9.00% for the next fiscal year	84.2%	82.3%
• 11.00% for the next fiscal year	87.9%	86.0%
• 13.00% for the next fiscal year	91.5%	89.7%
• Simulate 2008 loss using -15% for the next fiscal year	40.0%	38.0%
Average Returns over next 10-Year Period (Simulated returns using mean and standard deviations from PERS' Investment Consultant's Capital Market Assumptions)*	2024 Valuation	2023 Valuation
• 6.00%	65.5%	63.4%
• 7.00%	80.7%	78.8%
• 8.00%	100.4%	98.6%

\* 6.00% Average Returns over the next 10-Year Period: 7.04%, 10.32%, 2.25%, 5.45%, 8.52%, 0.00%, 5.44%, 11.49%, -7.04%, 18.53%  
 7.00% Average Returns over the next 10-Year Period: 3.61%, 20.67%, -0.02%, 11.58%, -4.84%, 8.13%, 18.10%, 2.04%, 0.83%, 12.67%  
 8.00% Average Returns over the next 10 Year Period: 9.00%, 9.01%, 16.24%, 4.84%, 16.62%, 6.78%, -3.74%, 6.19%, 18.57%, -1.19%





## SECTION XI – SENSITIVITY ANALYSIS

As can be seen from the projected funded ratios on the table above, the sensitivity of short-term investment returns does have a significant impact to the funding of HSPRS in the long-term, especially another repeat of the Great Recession of 2008. We believe it demonstrates the importance of these continued projection reports and the continued monitoring of this sensitivity analysis because short-term differences in investment returns can have a major impact on the projection of funded ratios.

### Demographic Risk

While actual investment returns compared to that assumed is the most critical driver of funding, many other assumptions are used in the actuarial projections to review sensitivity, such as population growth and wage inflation. Variances in these other assumptions over the long-term may also have an impact on the funding of the Plan.

For HSPRS, there have been significant fluctuations in active membership since 2008. In the baseline projections we assume a static population of 504 active members. For sensitivity analysis, we have performed the projections assuming both a 0.25% and 0.50% increase and decrease each year around this static assumption. For HSPRS, a 0.50% decrease in active population each year of the projection results in the active population dropping to 433. In the table below, we review these alternatives to the static active membership growth:

**Projected Funded Ratio in 2047**

Active Membership Growth	2024 Valuation	2023 Valuation
• Increase 0.50% each year	83.5%	82.2%
• Increase 0.25% each year	82.0%	80.4%
• <b>Static Population (Baseline Assumption)</b>	<b>80.5%</b>	<b>78.6%</b>
• Decrease 0.25% each year	79.0%	76.9%
• Decrease 0.50% each year	77.6%	75.1%







## SECTION XI – SENSITIVITY ANALYSIS

### Assumption Risk

We also performed a sensitivity analysis for the wage inflation assumption. As a result of the experience study presented in April 2023, the Board kept the wage inflation assumption at 2.65%, which is 0.25% above the price inflation of 2.40%. Wage inflation is a major component of the underlying salary increase assumptions, as well as the amortization of the Unfunded Accrued Liability which is based on the level percent of payroll amortization methodology.

In the table below, the second scenario lowers the discount rate to 6.75% but does not change the price inflation or wage inflation. The third scenario lowers the price and wage inflation by 0.30% and lowers the discount rate to 6.75%.

**Projected Funded Ratios in 2047**

Scenario	Price Inflation	Discount Rate	Wage Inflation	2024 Valuation	2023 Valuation
<b>1 - Baseline</b>	2.40%	7.00%	2.65%	<b>80.5%</b>	<b>78.6%</b>
2	2.40%	6.75%	2.65%	71.5%	69.7%
3	2.10%	6.75%	2.35%	68.5%	68.9%





## SECTION XI – SENSITIVITY ANALYSIS

### Contribution Risk

To demonstrate the contribution risk of making the Fixed Contribution Rates (FCR) for HSPRS, we have calculated the projected funded ratios if the FCRs were 1% higher or 1% lower than the current rates for all future years.

#### Projected Funded Ratios in 2047

Change in Fixed Contribution Rate (FCR)	2024 Valuation	2023 Valuation
• Baseline	80.5%	78.6%
• 1.00% increase in FCR	82.7%	81.0%
• 1.00% decrease in FCR	78.3%	76.2%

Over a long projection period, gains and losses due to population growth and wage inflation assumptions will be relatively concentrated around the expected value of these assumptions. So, the impact of the sensitivity around these baseline assumptions is small when compared to the investment return assumption.





## SECTION XI – SENSITIVITY ANALYSIS

### Liquidation Risk

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we must now include a low-default-risk obligation measure of the Fund's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of this plan.

This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2024 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a low-default-risk obligation measure liability of approximately \$772,120,000.

This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan.





## SECTION XII – PROJECTION SUMMARY

Utilizing the metrics based on the funding policy for HSPRS and with a fixed contribution rate as a percentage of annual compensation of 49.08% of payroll, the projection results for 2024 for HSPRS show that none of the funding policy metrics are in the Red Status. Therefore, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 49.08% of annual compensation at this time. However, the ADC/FCR ratio is expected to increase to more than 110% within the next 5 years. Therefore, an increase in the Fixed Contribution Rate may be needed soon, especially if there is negative experience.

Metrics	2024 Baseline Projection	2024 Status
Funding Ratio in 2047	80.5%	Yellow
Cash Flow as a Percentage of Assets	(4.42)%	Green
ADC/FCR Ratio from 2024 Valuation	108.2%	Yellow
ADC/FCR Ratio from 2025 Valuation	108.0%	Yellow





## SCHEDULE A – DEVELOPMENT OF ASSETS

(\$ thousands)

Valuation Date June 30:	2023	2024	2025	2026	2027	2028
A. Actuarial Value Beginning of Year	\$419,219	\$429,909				
B. Market Value End of Year	416,724	438,476				
C. Market Value Beginning of Year	405,372	416,724				
D. Cash Flow						
D1. Contributions	20,299	20,391				
D2. Other Revenue	3,159	3,293				
D3. Benefit Payments	(41,122)	(43,960)				
D4. Refunds	(161)	(143)				
D5. Administrative Expenses	(359)	(350)				
D6. Net	(18,184)	(20,769)				
E. Investment Income						
E1. Market Total: B.-C.-D6.	29,536	42,521				
E2. Assumed Rate	7.55%	7.00%				
E3. Amount for Immediate Recognition	29,919	28,444				
E4. Amount for Phased-In Recognition	(383)	14,077				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(77)	2,815				
F2. First Prior Year	(14,937)	(77)	2,815			
F3. Second Prior Year	17,632	(14,937)	(77)	2,815		
F4. Third Prior Year	(3,334)	17,632	(14,937)	(77)	2,815	
F5. Fourth Prior Year	(329)	(3,329)	17,630	(14,938)	(75)	2,817
F6. Total Recognized Investment Gain	(1,045)	2,104	5,431	(12,200)	2,740	2,817
G. Actuarial Value End of Year: A + D6. + E3. + F6.	\$429,909	\$439,688				
H. Difference Between Market & Actuarial Values	\$(13,185)	\$(1,212)	\$(6,643)	\$5,557	\$2,817	\$0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.





## SCHEDULE A – DEVELOPMENT OF ASSETS

Asset Summary June 30, 2024 (\$ in Thousands)		
	Market Value	Actuarial Value
(1) Assets at June 30, 2023	\$416,724	\$429,909
(2) Contributions and Misc. Revenue	23,684	23,684
(3) Investment Increment	42,521	30,548
(4) Benefit Payments	(43,960)	(43,960)
(5) Refunds	(143)	(143)
(6) Administrative Expenses	(350)	(350)
(7) Assets at June 30, 2024 (1)+(2)+(3)+(4)+(5)+(6)	\$438,476	\$439,688
(8) Net Investment Return [ 2 x (3) ] / [ (7) + (1) – (3) ]	10.46%	7.28%





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation are based on the results of the experience investigation for the four-year period ending June 30, 2022, dated April 21, 2023, and adopted by the Board on August 22, 2023. The combined effect of the assumptions is expected to have no significant bias.

INTEREST RATE: 7.00% per annum, compounded annually (net of investment expenses only). The expected return on assets consists of 2.40% price inflation and 4.60% real rate of return.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of separation from active service are as follows:

Age	Withdrawal		Death*		Disability	Service	Service Retirement**
	Less than 20 years of service	20 or more years of service	Males	Females	Duty and Non-Duty		
25	7.000%		0.0567%	0.0189%	0.0191%	5	7.5%
30	4.000		0.0630	0.0259	0.0259	10	7.5%
35	2.750	1.375%	0.0714	0.0350	0.0383	15	7.5%
40	2.000	1.000	0.0893	0.0483	0.0506	20	9.0%
45	2.000	1.000	0.1218	0.0665	0.0675	25	24.0%
50	2.000	1.000	0.1764	0.0917	0.1035	30	25.0%
55	0.000	0.000	0.2594	0.1274	0.1744	35	35.0%
60	0.000	0.000	0.3980	0.1757	0.2914	40+	100.0%

\* Adjusted Base Rates.

\*\* The annual rate of service retirement is 100% at age 63.

It is assumed that a member will be granted 1¼ years of service credit for unused leave at termination of employment. In addition, it is assumed that, on average, ½ year of service credit for peace-time military service will be granted to each member.





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

**SALARY INCREASES:** Representative values of the assumed annual rates of salary increases are as follows:

Service	Merit & Seniority	Annual Rates of	
		Base (Economy)	Increase Next Year
0-4	2.35%	2.65%	5.00%
5-7	2.10	2.65	4.75
8-13	1.60	2.65	4.25
14-20	1.35	2.65	4.00
21-24	1.10	2.65	3.75
25	0.85	2.65	3.50

**DEATH AFTER RETIREMENT:**

### Service Retirees\*

#### Membership Table

#### Adjustment to Rates

#### Projection Scale

PubS.H-2010(B)  
Retiree

Male: 95% up to age 60, 110% for ages 61 to 75, and  
101% for ages above 77  
Female: 84% up to age 72, 100% for ages above 76

MP-2020

### Contingent Annuitants\*

#### Membership Table

#### Adjustment to Rates

#### Projection Scale

PubS.H-2010(B)  
Contingent Annuitant

Male: 97% for all ages  
Female: 110% for all ages

MP-2020

### Disabled Retirees\*

#### Membership Table

#### Adjustment to Rates

#### Projection Scale

PubG.H-2010  
Disabled

Male: 134% for all ages  
Female: 121% for all ages

MP-2020

\* Please note that none of the recommended tables have any setbacks or setforwards.







## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

Representative values of the assumed rates of death after retirement are as follows:

Rates of Death After Retirement*						
	Service Retirees		Contingent Annuitants		Disabled Retirees	
Age	Male	Female	Male	Female	Male	Female
45	0.2983%	0.0983%	0.7692%	0.5104%	1.4660%	1.1919%
50	0.4190%	0.1638%	0.8837%	0.6556%	2.2780%	1.7956%
55	0.5197%	0.2738%	1.0156%	0.7843%	2.9855%	2.1078%
60	0.7771%	0.4578%	1.2397%	1.0131%	3.6475%	2.4684%
65	1.3211%	0.7652%	1.6286%	1.4157%	4.5426%	2.9730%
70	2.1758%	1.2785%	2.4153%	1.9998%	5.8129%	3.8127%
75	3.8566%	2.3659%	3.7209%	3.0052%	7.6661%	5.2683%
80	6.2640%	4.2530%	5.7734%	4.7289%	10.8125%	7.7779%
85	11.0605%	7.3240%	9.2228%	7.8562%	15.7785%	11.9947%
90	17.6902%	12.6470%	14.6577%	13.4530%	22.7224%	17.5353%

\*Adjusted Base Rates

PAYROLL GROWTH: 2.65% per annum, compounded annually.

ADMINISTRATIVE EXPENSES: 1.00% of payroll.

TIMING OF DECREMENT AND PAY INCREASES: Middle of Year.

ASSUMED INTEREST RATE ON EMPLOYEE CONTRIBUTIONS: 2.00%

MARRIAGE ASSUMPTION: 100% married with the husband three years older than his wife.

SURVIVING CHILD BENEFITS ASSUMPTION: A small load is applied for surviving children.

MAXIMUM COVERED EARNINGS ASSUMPTION GROWTH: 2.65%

MODIFIED CASH REFUND: Benefits were valued with a twelve-year certain period for retirees and five years certain for active members to estimate the value of the modified cash refund feature.





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

**ASSET VALUATION METHOD:** Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

**AMORTIZATION METHOD FOR ACTUARIALLY DETERMINED CONTRIBUTION (ADC):** Level Percentage of Payroll Method using closed amortization periods as follows:

- a. Existing UAAL on June 30, 2023 – 25 years.
- b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.

**VALUATION METHOD:** The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability, or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of HSPRS are determined following a level funding approach and consist of a normal contribution and an accrued liability contribution.

Under the entry age normal cost method, the actuarial present value of each member's projected benefits is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses. The accrued liability contribution amortizes the balance of the unfunded actuarial accrued liability over a period of years from the valuation date.





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The following summary presents the main benefit and contribution provisions of the System in effect June 30, 2024, as interpreted in preparing the actuarial valuation.

### DEFINITIONS

<b>Average Compensation</b>	Average annual covered earnings of an employee during the four highest consecutive years of service.
<b>Covered Earnings</b>	Gross salary not in excess of the maximum amount on which contributions were required.
<b>Fiscal Year</b>	Year commencing on July 1 and ending June 30.
<b>Credited Service</b>	Service while a contributing member plus additional service as described below.
<b>Unused Sick and Vacation Leave</b>	Service credit is provided at no charge to members for unused sick and vacation time that has accrued at the time of retirement. A payment of up to 240 hours of leave may be used in the Average Compensation definition.
<b>Additional Service</b>	Additional service credit may be granted for service prior to July 1, 1958, active duty military service, and retroactive service





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The maximum covered earnings for employers and employees over the last ten years are as follows:

### EMPLOYER AND EMPLOYEE RATES OF CONTRIBUTION AND MAXIMUM COVERED EARNINGS

Fiscal Date From	Fiscal Date To	Employer Rate	Employee Rate	Maximum Covered Earnings*
7/1/2013	6/30/2018	37.00%	7.25%	
7/1/2018	6/30/2024	49.08%	7.25%	

\* Maximum covered earnings equal wages paid, not to exceed wages paid to the Commissioner of the Department of Public Safety (currently \$190,175).

Effective July 1, 2024, additional contributions from SB 2659 and HB 1015 are estimated to be \$3,300,000 combined.



## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS



### BENEFITS

#### Superannuation Retirement

##### Condition for Retirement

A retirement allowance is payable to any member who retires and has attained age 55 and completed at least five years of membership service or has attained age 45 and completed at least 20 years of creditable service or has completed 25 years of creditable service regardless of age.

Any member who has attained age 63 shall be retired forthwith. Effective July 1, 2011, the Commissioner of Public Safety is authorized to allow a member who has attained age 63 to continue in active service. Such continued service may be authorized annually until the member attains age 65.

##### Amount of Allowance

The annual retirement allowance payable to a retired member is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his or her retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to 2-1/2% of his or her average compensation for each year of membership service, plus
3. A prior service annuity equal to 2-1/2% of average compensation for each year of prior service.

The aggregate amounts of (2) and (3) above shall not exceed 100% of average compensation, regardless of service, for retirements on or after January 1, 2000.





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The minimum allowance for both service and disability retirement based on the following table for each year of creditable service, reduced if necessary, as indicated below.

Service	Monthly Benefit
Less than 10 years	\$250
10-15 years	\$300
15 or more years	\$500

The annual retirement allowance payable to a member who retires under condition (a) above prior to age 55 is computed in accordance with the above formula except that the employer's annuity and prior service annuity are reduced actuarially based on mortality table and interest rate used in the valuation.

### Deferred Vested

#### Condition for Vesting

Any member who withdraws from service prior to his or her attainment of age 55 but after having completed five or more years of creditable service is entitled to receive, in lieu of a refund of his or her accumulated contributions, a retirement allowance commencing at age 55.

#### Amount of Allowance

The annual retirement allowance payable at age 55 is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his or her retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to 2-1/2% of his or her average compensation for each year of membership service, plus
3. A prior service annuity equal to 2-1/2% of average compensation for each year of prior service.

The aggregate amounts of (2) and (3) above shall not exceed 100% of average compensation, regardless of service, for retirements on or after January 1, 2000; 85% for retirements prior to January 1, 2000.





SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The minimum allowance for both service and disability retirement based on the following table for each year of creditable service, reduced if necessary as indicated below.

Service	Monthly Benefit
Less than 10 years	\$250
10-15 years	\$300
15 or more years	\$500

Disability Retirement

Non-Duty-Related

Non-duty related disability benefits are available to vested members under the age of 55. Vested members age 55 or older are not eligible for disability benefits but may apply for service retirement benefits. For purposes of disability benefits, average annual compensation is calculated using the last two years of salary before retirement.

Duty-Related

If the member becomes permanently disabled due to sickness or injury caused or sustained as a direct result of duty, they may be eligible for duty-related disability retirement. They are covered for this benefit from the first day of employment if they have not reached age 55, regardless of their years of service. Duty-related disability retirement benefits are calculated at either 50 percent of average compensation of the last two years of salary before retirement (this portion is not taxable) or the non-duty-related disability retirement amount, whichever provides the higher benefit.

Death Benefits

Non-Duty-Related

If the member is vested, their spouse and dependent children may be eligible to receive certain statutory benefits. Claims for non-duty-related death benefits are calculated at 2.5 percent of average compensation for each year of service credit, as calculated under Option 9, Maximum Benefit. Under this option, 50 percent of the accrued benefit is payable to the member's spouse until death, with 25 percent of the accrued benefit payable to one dependent child and 50 percent of the accrued benefit payable for two or more dependent children (under age 19 and never married or under age 23 if a full-time student and never married). Upon application and approval by the Medical Board, benefits to a physically or mentally disabled child may continue as long as the disability exists.





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

### Duty-Related

Coverage for duty-related death benefits begins on the first day of employment and is available to the member's spouse and dependent children regardless of their vesting status. If they are vested, their spouse and dependent children may be eligible to receive benefits under either non-duty or duty-related death benefit provisions, whichever provided the higher benefit.

Claims for duty-related death benefits are calculated at 50 percent of average compensation, payable to the member's spouse until death, with 25 percent of average compensation payable to one dependent child and 50 percent of average compensation payable for two or more dependent children (under age 19 and never married or under age 23 if a full-time student and never married). Upon application and approval by the Medical Board, benefits to a physically or mentally disabled child may continue as long as the disability exists.

### Death After Retirement

Upon the death of a highway patrolman who has retired for service or disability and who has not elected any other optional form of benefit, his widow or her widower is eligible for a benefit equal to 50% of his or her retirement allowance and each child (but not more than 2) who has not attained age 19 (23 if a full-time student) is eligible for a benefit equal to 25% of his or her retirement allowance. The benefit to the widow is payable for life and to children until they attain age 19 (23 if a full-time student) or for life if they are totally and permanently disabled.

### Refund of Contributions

Upon a member's termination of employment for any reason before retirement, his or her accumulated contributions, together with regular interest thereon, are refunded. Upon the death of a member who is not eligible for any other death benefit, his or her accumulated contributions, together with regular interest thereon, are paid to his or her beneficiary.

Effective July 1, 2016, the interest rate on employee contributions shall be calculated based on the money market rate as published by the Wall Street Journal on December 31 of each preceding year with a minimum rate of one percent and a maximum rate of five percent.







## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

### Normal Form of Benefit

For single retirees, the normal form of benefit is an allowance payable during the life of the member. For married retirees, the normal form of benefit is an allowance payable as described in Option 9 below. Upon death the benefits described above are payable.

### Optional Benefits

A member upon retirement may elect to receive his allowance in one of the following forms which are computed to be actuarially equivalent to the applicable retirement allowance.

Option 1. Reduced allowance with the provision that if the pensioner dies before he receives the value of the member's annuity as it was at the time of retirement, the balance shall be paid to his or her beneficiary.

Option 2. Upon his or her death, his or her reduced retirement allowance shall be continued throughout the life of, and paid to, his or her beneficiary.

Option 3. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary and the other 50% of his or her reduced retirement allowance to some other designated beneficiary.

Option 4. Upon his or her death, 75% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4A. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4B. A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner or his or her beneficiary for a specified number of years certain.



## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS



Option 4C. A member may elect any option with the added provision that the member shall receive, so far as possible, the same total amount annually (considering both HSPRS and Social Security benefits) before and after the earliest age at which the member becomes eligible for a Social Security benefit. This option was only available to those who retired prior to July 1, 2004.

Option 9. Upon his or her death, spouse will receive 50% of the benefit member was receiving for life. Each dependent child (under age 19 and never married or under age 23 if a full-time student and never married) will receive 25% of the benefit member was receiving with a maximum of 50% for the support and care of two or more children. Any contribution and interest remaining after member death and after all monthly benefits due to spouse and children have been paid will be refunded to designated beneficiaries. If the member marries after retirement while receiving benefits under this option, they may apply to Pop-Down to Option 2 to provide 100% beneficiary protection to new spouse, or Pop-down to Option 4 or Option 4A for other beneficiary protections for the new spouse. PLSO is available with this option, if eligible.

A member who elects Option 2, Option 4, or Option 4A, at retirement may revert to the normal form of benefit if the designated beneficiary predeceases the retired member or if the retired member divorces the designated beneficiary. A member who elects the normal form of benefit or Option 1 at retirement may select Option 2, Option 4, or Option 4A to provide beneficiary protection to a new spouse if married after retirement.

A member who qualifies for an unreduced retirement allowance may select a partial lump-sum option at retirement. Under this option, the retiree has the option of taking a partial lump-sum distribution equal to either 12, 24, or 36 times the base maximum monthly benefit. With each lump-sum amount, the base maximum monthly benefit will be actuarially reduced. A member selecting this option may also select any of the regular options except Option 1, the prorated single-life annuity, and Option 4-C, the Social Security leveling provision. The benefit is then calculated using the new reduced maximum





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

### Post-Retirement Adjustments In Allowances

benefit as a starting point in applying the appropriate option factors for the reduction.

The allowances of retired members are adjusted annually by an amount equal to (a) 3% of the annual retirement allowance for each full fiscal year of retirement prior to the year in which the member reaches age 60\*, plus (b) 3% compounded for each year thereafter beginning with the fiscal year in which the member turns age 60\*.

A prorated portion of the annual adjustment will be paid to the member, beneficiary, or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but whose benefits are terminated between July 1 and December 1.

Those members who retired on or before July 1, 1999 received an ad hoc benefit increase in the amount of \$3.50 per month per each full fiscal year of retirement through June 30, 1999 plus \$1.00 per month for each year of credited service. The benefits were increased on July 1, 1999.

\*this age will be reduced in five phases to age 55 if the actuary certifies that reducing the age will not result in the amortization period of the unfunded actuarial accrued liability exceeding 20 years.





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### RECONCILIATION OF DATA RECEIVED FROM PERS

Reconciliation of Data received from PERS	Active File			Pensioner File			Total
	Active	Inactives	Deferred Vested	Retirees	Disableds	Survivors	
From PERS	541	39	41	628	14	194	1,457
Refunded	(8)	(4)					(12)
Deceased				(16)	(2)	(10)	(28)
Retiree Deceased						(2)	(2)
Certain Period End							
Inactive							
Deferred Vested							
Duplicate*	(29)						(29)
Retired							
For Valuation	504	35	41	612	12	182	1,386

\*Also included in Pensioner File

### STATUS RECONCILIATION FROM 2023 TO 2024

Reconciliation of Data from Last Year to This Year	Actives	Retirees	Disableds	Survivors	Deferred Vested	Inactives	Total
As of June 30, 2023	507	600	13	179	45	34	1,378
Retirement	(17)	28			(11)		
Disabled	(1)		1				
Death with Survivor		(12)		15			3
Terminated Def Vested	(9)				15	(6)	
Inactives	(7)				(5)	12	
Return to Active Svc	2				(1)		1
Refunded					(2)	(5)	(7)
Death No Survivor		(4)	(2)	(10)			(16)
Benefit Ended				(2)			(2)
Removed/Cleanup							
New / Pick-up	29						29
As of June 30, 2024	504	612	12	182	41	35	1,386





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Retirants & Beneficiaries as of June 30, 2024 Tabulated by Year of Retirement

Valuation Year of Retirement Ending June 30	No.	Total Annual Benefits, excluding COLA	COLA	Total Annual Benefits	Average Monthly Total Benefit
2024	29	\$1,491,990	\$0	\$1,491,990	\$4,287
2023	35	1,561,893	13,532	1,575,425	3,751
2022	40	2,140,564	99,097	2,239,661	4,666
2021	29	1,517,661	119,576	1,637,237	4,705
2020	23	1,301,690	138,455	1,440,145	5,218
2019	26	1,172,818	163,611	1,336,429	4,283
2018	16	764,989	130,520	895,509	4,664
2017	18	802,918	156,147	959,065	4,440
2016	10	396,469	92,852	489,321	4,078
2015	15	703,343	192,091	895,434	4,975
2014	21	941,868	277,790	1,219,658	4,840
2013	16	644,831	211,380	856,211	4,459
2012	18	749,564	267,811	1,017,375	4,710
2011	20	883,693	353,558	1,237,251	5,155
2010	45	1,797,872	800,073	2,597,945	4,811
2009	29	1,232,432	578,669	1,811,101	5,204
2008	14	499,641	261,135	760,776	4,528
2007	20	671,391	354,442	1,025,833	4,274
2006	18	574,517	334,196	908,713	4,207
2005	18	576,778	359,729	936,507	4,336
2004	18	672,565	447,675	1,120,240	5,186
2003	9	198,337	133,018	331,355	3,068
2002	23	651,501	495,894	1,147,395	4,157
2001	20	584,165	460,888	1,045,053	4,354
2000	13	421,153	352,885	774,038	4,962
1999	14	400,097	356,838	756,935	4,506
1998	28	808,776	725,940	1,534,716	4,568
1997	26	655,771	631,766	1,287,537	4,127
1996	19	436,902	432,062	868,964	3,811
1995	15	372,059	397,154	769,213	4,273
1994	13	272,342	288,536	560,878	3,595
1993	17	325,355	365,308	690,663	3,386
1992	3	53,655	62,952	116,607	3,239
1991	4	35,948	29,575	65,523	1,365
1990	10	143,659	194,083	337,742	2,815
1989	0	0	0	0	0
1988	1	14,712	24,497	39,209	3,267
1987 and Prior	113	1,448,687	2,219,113	3,667,800	2,705
TOTAL	806	\$27,922,606	\$12,522,848	\$40,445,454	\$4,182





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Schedule of Retired Members by Type of Retirement

Benefits Payable June 30, 2024

Amount of Original Monthly Benefit	Number of Rets.	Ret Type 1*	Ret Type 2*	Ret Type 3*
\$1 – \$500	21	2		19
501 – 1,000	87	7	3	77
1,001 – 1,500	70	20	1	49
1,501 – 2,000	79	62	5	12
2,001 – 2,500	98	85	1	12
2,501 – 3,000	95	90	2	3
3,001 – 3,500	102	98		4
3,501 – 4,000	72	69		3
4,001 – 4,500	60	58		2
4,501 – 5,000	31	31		
Over 5,000	91	90		1
Totals	806	612	12	182

\*Type of Retirement

- 1 – Retirement for Age & Service
- 2 – Disability Retirement
- 3 – Survivor Payment





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Schedule of Retired Members by Type of Option Benefits Payable June 30, 2024

Amount of Original Monthly Benefit	Number of Rets.	Life	Option 1	Option 2	Option 3	Option 4	Option 4A	Option 4B	Option 4C*	Option 9	PLSO* 1 Year	PLSO* 2 Years	PLSO* 3 Years
\$1 – \$500	17			2			1	1		13			
501 – 1,000	87	1		2	1		1	7	1	75		1	1
1,001 – 1,500	69			5			2	2	4	60	3		8
1,501 – 2,000	79	6		11	2		2	3	2	55	1	1	9
2,001 – 2,500	98	4		12				2	1	80	11	3	13
2,501 – 3,000	97	5		14	1		3	4	2	70	6	6	33
3,001 – 3,500	103	8	1	15		1	1	2		75	9	6	36
3,501 – 4,000	74	3		3	1	2	5	4		56	9	9	22
4,001 – 4,500	60		2	6			3	2		47	5	6	21
4,501 – 5,000	31			2						29	5	2	14
Over 5,000	91	1	1	1	1					87	10	9	25
Totals	806	28	4	73	6	3	18	27	10	647	59	43	182

#### Option Selected

- Life - Return of Contributions
- Opt. 1 - Return of Value of Member's Annuity
- Opt. 2 - 100% Survivorship
- Opt. 3 - 50%/50% Dual Survivorship
- Opt. 4 - 75% Survivorship
- Opt. 4A - 50% Survivorship
- Opt. 4B - Years Certain & Life
- Opt. 4C - Social Security Leveling\*
- Opt. 9 - Maximum Benefit with Pop-Down Provision
- PLSO - Partial Lump Sum\* (Reflects reduced monthly benefit)

\*Included in other options





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Retirant and Beneficiary Information June 30, 2024 Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					7	\$68,002	7	\$68,002
20 – 24								
25 – 29					1	\$13,043	1	\$13,043
30 – 34								
35 – 39					5	\$112,211	5	\$112,211
40 – 44			1	\$30,290	1	\$25,442	2	\$55,732
45 – 49	13	\$627,994	2	\$31,305	1	\$9,539	16	\$668,838
50 – 54	61	\$3,086,939			9	\$217,649	70	\$3,304,588
55 – 59	59	\$3,197,247	2	\$77,916	4	\$147,980	65	\$3,423,143
60 – 64	96	\$5,394,580	3	\$90,491	8	\$289,926	107	\$5,774,997
65 – 69	140	\$8,610,614			9	\$333,118	149	\$8,943,732
70 – 74	91	\$5,245,615	2	\$70,907	23	\$616,424	116	\$5,932,946
75 – 79	82	\$4,715,242	1	\$37,685	37	\$1,288,304	120	\$6,041,231
80 – 84	48	\$2,763,723	1	\$24,650	39	\$1,050,174	88	\$3,838,547
85 – 89	17	\$1,008,466			22	\$535,914	39	\$1,544,380
90 – 94	5	\$270,478			11	\$318,945	16	\$589,423
95					3	\$78,826	3	\$78,826
96					1	\$35,978	1	\$35,978
97								
98								
99								
100 & Over					1	\$19,837	1	\$19,837
Totals	612	\$34,920,898	12	\$363,244	182	\$5,161,312	806	\$40,445,454

Average Age: 69.1 years  
Average Age at Retirement: 50.4 years







## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Total Active Member Data as of June 30, 2024 Tabulated by Attained Ages and Years of Service

Attained Age	Completed Years of Service									Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Over	No.	Payroll
Under 25	13	10								23	\$ 1,176,588
25 to 29	9	67	14							90	5,137,835
30 to 34	7	29	31	2						69	3,985,154
35 to 39	1	17	31	13	9					71	4,615,289
40 to 44	1	5	18	16	47	2				89	6,519,253
45 to 49		5	8	3	31	26	2			75	5,899,626
50 to 54		3	6	3	19	15	13	1		60	4,952,244
55 to 59			2		3	9	6	1	1	22	1,897,901
60 to 64						2	2	1		5	460,890
65 to 69											0
70 & Over											0
Total Count	31	136	110	37	109	54	23	3	1	504	\$ 34,644,780

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 39.7 years  
Service: 10.8 years  
Annual Pay: \$68,740





## SCHEDULE E – ANALYSIS OF FINANCIAL EXPERIENCE

### Gains & Losses in Accrued Liabilities Resulting from Difference Between Assumed Experience & Actual Experience (\$ Thousands)

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2024	\$ Gain (or Loss) For Year Ending 6/30/2023
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (885.6)	\$ (427.3)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	92.1	59.5
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	148.9	112.6
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(778.3)	770.3
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	756.6	1,386.4
<b>New Members / Rehires.</b> Additional unfunded actuarial accrued liability will produce a loss.	(19.5)	(382.6)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	1,181.3	(2,090.6)
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	6.4	1,136.6
<b>Other.</b> Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	<u>(3,358.3)</u>	<u>(2,617.8)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (2,856.4)	\$ (2,052.9)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, software changes, assumption changes, or method changes.	<u>0.0</u>	<u>(42,719.5)</u>
<b>Composite Gain (or Loss) During Year</b>	<u>\$ (2,856.4)</u>	<u>\$ (44,772.4)</u>





## SCHEDULE F – FUNDING POLICY OF HSPRS

The purpose of the funding policy is to state the overall funding goals and objectives for the Mississippi Highway Safety Patrol Retirement System (HSPRS), and to document both the metrics that will be used to measure progress toward achieving those goals, and the methods and assumptions employed to develop the metrics. The employer contribution rate for HSPRS will be set based on the metrics, assumptions and methods outlined in Section II and III of this policy.

### I. Funding Goals and Objectives

The objective in requiring employer and member contributions to HSPRS is to accumulate sufficient assets during a member's employment to fully finance the benefits the member will receive in retirement. In meeting this objective, HSPRS will strive to meet the following goals:

- Preservation of the defined benefit structure for providing lifetime benefits to the HSPRS membership,
- Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
- Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
- Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of this policy using a “Signal Light” approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate, and
- Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution.

### II. Metrics

To track progress in achieving the outlined funding goals and objectives and to assist the Board in making a determination whether an increase or decrease in the employer contribution rate for HSPRS should be considered, certain metrics will be measured annually in conjunction with information provided in the actuarial valuation and projection report. As part of the annual valuation and projection reports, each metric will be calculated and assigned a “Signal Light” with the following definitions:

Status	Definition
Green	Plan passes metric and HSPRS' funding goals, and objectives are achieved
Yellow	Plan passes metric but a warning is issued that negative experience may lead to failing status
Red	Plan fails metric and HSPRS must consider contribution increases





## SCHEDULE F – FUNDING POLICY OF HSPRS

If any one of the metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three metrics back into the Green Signal Light status. The employer contribution rate increase would be effective beginning July 1<sup>st</sup>, 18 months following the completion of the projection report (e.g., if the projection report in 2024 deems an increase to be considered, then it would be effective for July 1, 2026).

The following metrics will be measured:

- **Funded Ratio** – Funded Ratio is defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100 percent funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047

- **Cash flow as a percentage of assets** – Cash flow as a percentage of assets is defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period





## SCHEDULE F – FUNDING POLICY OF HSPRS

- **Actuarially Determined Contribution (ADC)** – ADC is defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of this funding policy:
  1. Actuarial Cost Method
  2. Asset Smoothing Method
  3. Amortization Method

The calculation of the ADC will be determined during the actuarial valuation and not during the projection report. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by this Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate at valuation date
Yellow	ADC ratio between 100% and 110% of fixed contribution rate at valuation date
Red	ADC ratio above 110% of fixed contribution rate at valuation date

If all of the metrics are in the Green Signal Light status in conjunction with the annual valuation report and the projection report and the following additional criteria is met for two consecutive valuation and projection cycles, the actuary may recommend to the Board an employer contribution rate decrease to consider. The additional criteria is based on the actuary's long-term investment return assumption recommended by the actuary in the most recent experience study and is as follows:

- Funded Ratio in 2047 is above 110%,
- Cash Flow as a percentage of assets is above negative 3.5% during the projection period, and
- ADC Ratio is below 90% for all years of the projection period.





## SCHEDULE F – FUNDING POLICY OF HSPRS

### III. Assumptions and Methods

Each year, the actuary will perform an actuarial valuation and projection report for funding purposes. During the process, the actuary shall calculate all the metrics listed in Section II of this funding policy and HSPRS' Signal Light status for each metric. The following three major components of a funding valuation will be used:

- **Actuarial Cost Method** – This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with projected benefits. The Entry Age Normal Cost Method (EAN) is to be used for determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the Actuarial Determined Contribution (ADC).
- **Asset Valuation Method** – This component dictates the method by which the asset value, used in the determination of the Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio, is determined. The asset valuation method to be used shall be a five-year smoothed market value of assets. The difference between the actual market value investment returns and the expected market investment returns is recognized equally over a five-year period.
- **Amortization Method** – This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the accrued liability and the actuarial value of assets is reduced. For purposes of calculating the ADC metric, the following amortization method assumptions are used:
  - I. Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.
  - II. The amortization payment will be determined on a level percentage of pay basis.
  - III. The length of the amortization periods will be as follows:
    - a. Existing UAAL on June 30, 2023 – 25 years.
    - b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.
  - IV. If any future annual actuarial valuation indicates that HSPRS has a negative UAAL, the ADC shall be set equal to the Normal Cost.
- **Actuarial Assumptions** – The actuarial assumptions are used to develop the annual and projected actuarial metrics, as well as the ADC rates. The actuarial assumptions are derived and proposed by the actuary and adopted by the PERS' Board in conformity with the *Actuarial Standards of Practice*. The actuarial assumptions for this funding policy were developed using the experience for the four-year period ending June 30, 2022 (State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2022). The long-term investment return assumption adopted by the PERS' Board in conjunction with the experience investigation is 7.00 percent.





## SCHEDULE F – FUNDING POLICY OF HSPRS

### IV. Governance Policy/Process

Below is a list of specific actuarial and funding related studies, the frequency at which they should be commissioned by the Board and additional responsibilities related to each:

- **Actuarial Valuation (performed annually)** – The Board is responsible for the review of HSPRS' annual actuarial valuation report, which provides the annual funded ratio and the calculation of the ADC.
- **Projection Report (performed annually)** – The Board is responsible for the review of HSPRS' 30-year projection report, which will include the actuarial metrics and Signal Light status for each metric over a 30-year period.
- **Experience Analysis (performed every two years on a rolling four-year)** – The Board is responsible for ensuring that an experience analysis is performed as prescribed, review of the results of the study, and approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plan.
- **Actuarial Audit (performed at least every five years)** – The Board is responsible for the review of an audit report performed by a new actuarial firm to provide a critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.
- **Funding Policy Review (performed at least annually)** – The Board is responsible for the periodic review of this policy, but at least annually following the Projection Report and biennially following the Experience Analysis.

### V. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Actuarial Determined Contribution (ADC):** The potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. The ADC may or may not be the amount actually paid by the plan sponsor or other contributing entity.
- **Asset Values:**
  - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
  - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.







## SCHEDULE F – FUNDING POLICY OF HSPRS

- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
  - **Actuarial Value Funded Ratio:** is the ratio of the AVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. HSPRS' annual valuation date is June 30.







## SCHEDULE G – HISTORY OF HSPRS PLAN PROVISIONS

Since 1958, the benefit structure of the Highway Safety Patrol Retirement System (HSPRS) of Mississippi has undergone significant changes as noted in the table below.

Fiscal Year Beginning	Benefit Modifications
July 1, 1958	<ul style="list-style-type: none"> <li>Mississippi Highway Safety Patrol Retirement System created.</li> </ul>
July 1, 1966	<ul style="list-style-type: none"> <li>Removed limit of \$200 per month for disability retirement payments.</li> <li>Eliminated reduction in retirement benefits resulting from Social Security payments.</li> <li>Provided same survivor benefits to disability retiree's beneficiaries as those provided for service retiree's beneficiaries.</li> </ul>
July 1, 1974	<ul style="list-style-type: none"> <li>Authorized military service credit (not to exceed 4 years maximum unless proof furnished member was retained by causes beyond his control).</li> </ul>
July 1, 1975	<ul style="list-style-type: none"> <li>Provided additional benefit payments (13<sup>th</sup> Checks) to retired patrolmen.</li> <li>Authorized payment of benefits to spouses and families of patrolmen who die after serving minimum period or who are killed in line of duty.</li> </ul>
July 1, 1976	<ul style="list-style-type: none"> <li>Provided benefits to widows of highway patrolmen who were killed in line of duty prior to enactment of highway patrol retirement system.</li> </ul>
July 1, 1977	<ul style="list-style-type: none"> <li>Provided that a highway patrolman who reenters service with the highway safety patrol may receive retirement credit for prior years upon repayment of amount refunded and interest from date of refund to repayment.</li> </ul>
July 1, 1979	<ul style="list-style-type: none"> <li>Provided guaranty of benefits and maximum retirement allowance in the highway safety patrol retirement system.</li> </ul>
July 1, 1980	<ul style="list-style-type: none"> <li>Provided a minimum service and disability retirement benefit for members of MHSPRS.</li> <li>Provided any member who served in maritime service during periods of hostility in WWII shall be allowed credit for maritime service.</li> <li>Provided all members who served in armed forces during war or military conflict or in maritime service during periods of hostility in WWII shall be allowed credit regardless of when they retired.</li> </ul>
July 1, 1982	<ul style="list-style-type: none"> <li>Provided employer pickup of member contributions.</li> <li>Increases additional payment (13th check) to 1/2 of annual percentage change of CPI not to exceed 2 1/2%.</li> </ul>
July 1, 1984	<ul style="list-style-type: none"> <li>Provided that unused leave shall be treated as creditable service under MHSPRS.</li> </ul>
July 1, 1985	<ul style="list-style-type: none"> <li>Increased 13th check to an amount equal to 2 1/2% of annual percentage change in CPI for years thru 6-30-85; and for subsequent years 100% of annual percentage change in CPI not to exceed 2 1/2%; provided an additional amount could be paid in increments of 1/4 of 1% to a maximum of 1 1/2% provided there were sufficient gains in excess of accrued liability.</li> </ul>
July 1, 1986	<ul style="list-style-type: none"> <li>Reduced to 5 years the required years to qualify to retire at age 55.</li> <li>Provided full retirement with 30 years creditable service regardless of age.</li> </ul>





## SCHEDULE G – HISTORY OF HSPRS PLAN PROVISIONS

Fiscal Year Beginning	Benefit Modifications
	<ul style="list-style-type: none"> <li>Reduced the number of years which determine average compensation to 4 highest consecutive years.</li> <li>3% reduction in retirement allowance shall apply to the lesser of: each year of age below age 55 or each year less 30 years of creditable service.</li> <li>Provided retirement allowance shall not exceed 85% of average compensation.</li> <li>Provided mandatory retirement and termination of membership at age 60.</li> <li>Provided no monthly benefit payment may be made for a period of time in excess of that allowed by federal law.</li> <li>Provided an ad hoc increase of 3% to retirees who retired prior to July 1, 1986, and average compensation was based on 5 consecutive years of earned compensation instead of 4.</li> <li>Provided that a retiree may elect by an irrevocable agreement to receive additional payment (13th check) in equal installments not to exceed 6 months.</li> <li>Amended section 25-13-13 on death benefits to conform to section 25-13-11 allowing 5-year vesting by deleting 10-year requirement.</li> <li>Provided a one-time early retirement for any member who had at least 20 years of creditable service; exempted early service retirement allowance from the 3% reduction if member is below age 55; allowance was based on current fiscal year's salary.</li> </ul>
July 1, 1989	<ul style="list-style-type: none"> <li>Provided survivor benefits from day one of employment to a spouse and/or dependent children of a member who is either killed in the line of performance of duty or dies as a direct result.</li> </ul>
July 1, 1990	<ul style="list-style-type: none"> <li>Amended section 25-13-11 to reduce from 30 to 25 numbers of years required for full retirement regardless of age.</li> <li>Provided a 10% ad hoc increase in annual retirement allowance to retired members and beneficiaries with minimum benefits of \$500.00 if retired with 15 or more years of service credit; \$300.00 per month if retired with 10 or more but less than 15 years credit; \$250.00 per month to anyone with less than 10 years credit; beneficiaries to receive a minimum of \$250.00 per month.</li> <li>Established options for service and disability retirees retiring 7-1-90 or later.</li> <li>Provided an active member qualified for retirement may pre-select an option.</li> <li>Provided option selection will take precedence over automatic survivor benefits.</li> </ul>
July 1, 1991	<ul style="list-style-type: none"> <li>Allowed sworn agents of MS Bureau of Narcotics, who were employed by such bureau prior to December 1, 1990, regardless of age, may be employed as enforcement officers, if they meet all other qualifications. Those employed retain all compensatory, personal, and sick leave accrued.</li> <li>Provided cost-of-living payment (13th check) shall be cumulative to conform to PERS law.</li> <li>Provided regular interest shall be credited annually to member's employee contribution account.</li> </ul>





## SCHEDULE G – HISTORY OF HSPRS PLAN PROVISIONS

Fiscal Year Beginning	Benefit Modifications
July 1, 1992	<ul style="list-style-type: none"><li>• Provided benefits to dependent children to age 23 if they remain in school.</li></ul>
July 1, 1997	<ul style="list-style-type: none"><li>• Allowed retired Highway Patrolmen to irrevocably elect to have COLA (13th check) paid in twelve (12) equal installments.</li></ul>
July 1, 1999	<ul style="list-style-type: none"><li>• Provide that if the member and beneficiary die before having received in benefits an amount equal to the total of the contributions and accrued interest of the member at the time of death, that the balance will be refunded to the designated beneficiary or by statutory succession.</li><li>• Provided that payment of death benefits shall be in accordance with the statutory provisions set forth as of the date of death of the member.</li><li>• Authorized a retiree who retired before or after July 1, 1999, to be eligible for the same “pop-up” and “pop-down” provisions of PERS; and recalculates the benefits of those retirees who selected Option 5 “pop-up” protection.</li><li>• Authorized an ad hoc benefit adjustment to each member of the Mississippi Highway Safety Patrol Retirement System (MHSPRS) retired on or before July 1, 1999, in the amount of \$3.50 per month for each full fiscal year of retirement through June 30, 1999, plus \$1.00 per month for each year of service credit used in the calculation of benefits.</li><li>• Removed from consideration in the base COLA the requirement that the Consumer Price Index (CPI) have increased by at least 2 ½%.</li><li>• Provided that a prorated portion of the annual adjustment will be paid to the beneficiary or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but who dies between July 1 and December 1 in those cases where no more monthly benefits will be paid after the member's or beneficiary's death. This prorated portion will be equal to the amount that such recipient would have received had he or she elected to receive the annual adjustment for the year on a monthly basis.</li></ul>
July 1, 2000	<ul style="list-style-type: none"><li>• Deleted the maximum option where no additional benefits are payable after death. The statute retains Option 9, which provides a maximum option with a 50% survivor benefit with no reduction in the member's retirement allowance.</li><li>• Provided for a new retirement option that would allow a member who is eligible for an <u>unreduced retirement benefit</u> to select a partial lump-sum option at retirement.</li><li>• Allowed the Cost of Living Adjustment to be calculated on <u>all</u> full fiscal years in retirement, not just the years since the retirant's last retirement.</li><li>• Provided for the same service credit for active duty, as is allowed in PERS and is no longer limited to active duty service during times of conflict. This amendment applies to all persons who have retired from the Highway Patrol and who qualify for such credit, whether they retired before or after July 1, 2000. This provision, however, did not require any back payments.</li></ul>





## SCHEDULE G – HISTORY OF HSPRS PLAN PROVISIONS

Fiscal Year Beginning	Benefit Modifications
	<ul style="list-style-type: none"><li>Changed the maximum limitation on the retirement benefit from 85% of the average compensation regardless of the years of service to 100% of the average compensation.</li></ul>
July 1, 2002	<ul style="list-style-type: none"><li>Provided that Option 4-C, Social Security Leveling Option, will no longer be available to members retiring on or after July 1, 2004.</li><li>Provided that any member who has five years of service (reduced from 10 years) may apply for a regular non-duty related disability retirement allowance.</li><li>Provided for a compounded COLA, based on 3% of the retirement allowance for each full fiscal year in retirement with the 3% compounding beginning at age 60; to further provide that the age at which the compounding begins will be reduced gradually to age 55 as such can be accomplished without causing the unfunded accrued liability amortization period to exceed 20 years; to further provide that a pro-rated share of the lump-sum COLA will be paid if a benefit terminates before December 1 of the fiscal year. Also, allows the Board to grant a change in the manner the COLA is paid if a hardship is shown.</li></ul>
July 1, 2004	<ul style="list-style-type: none"><li>Conformed the MHSPRS COLA section (except for the age of compounding) to the provisions in PERS.</li><li>Eliminated the re-marriage penalty which terminates a spouse's benefit, currently provided in subsections (1) and (3), upon his/her remarriage. This amendment also allows those spouses whose benefits have been previously terminated to apply to have the benefits reinstated prospectively.</li></ul>
July 1, 2008	<ul style="list-style-type: none"><li>Allowed a retroactive effective date (up to 3 months) for retirees who revert from Option 2 or Option 4A to the maximum option following the death of the named beneficiary.</li></ul>
July 1, 2011	<ul style="list-style-type: none"><li>Option 4, a 75% joint and survivor annuity, made available to members who retire on or after July 1, 2011</li><li>For members hired on or after July 1, 2011, the mandatory retirement age was increased from age 60 to age 63.</li></ul>
July 1, 2016	<ul style="list-style-type: none"><li>The interest rate on employee contributions shall be calculated based on the money market rate as published by the Wall Street Journal on December 31 of each preceding year with a minimum rate of one percent and a maximum rate of five percent.</li><li>The early retirement formula shall be reduced by an actuarially determined percentage or factor (rather than a fixed 3%) for each year of age below 55 or for each year of service below 25, whichever is less.</li></ul>



# **Supplemental Legislative Retirement Plan of Mississippi**



## **Annual Valuation Report**

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**Prepared as of June 30, 2024**

December 5, 2024

Board of Trustees  
Public Employees' Retirement System of Mississippi  
429 Mississippi Street  
Jackson, MS 39201-1005

Ladies and Gentlemen:

Presented in this report are the results of the annual actuarial valuation of the Supplemental Legislative Retirement Plan of Mississippi (SLRP). The purpose of the valuation is to:

- Measure the System's funding progress as of the valuation date,
- To determine the unfunded actuarial accrued liability amortization period beginning July 1, 2024 using the Fixed Contribution Rate (FCR) of 8.40% of payroll,
- To determine the actuarially determined contribution (ADC) for the fiscal year beginning July 1, 2026 using the assumptions and methods in the Board's Funding Policy,
- To project the System's funding progress for the next thirty years and provide clear reporting and risk analysis of the funding metrics as outlined in the Board's funding policy using a "Signal Light" approach, and
- To assist the Board in determining whether an increase or decrease is needed in the Fixed Contribution Rate.

The results may not be applicable for other purposes. The date of the valuation was June 30, 2024.

The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning active, inactive and retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of valuation results on page 1 and the projection results on page 5. Since none of the funding policy metrics are in the Red Status, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.

No changes were made to the actuarial assumptions or plan provisions since the previous valuation.



The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural 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 system's funded status); and changes in plan provisions or applicable law. An analysis of the potential range of future measurements is provided in Section XI of this report.

This actuarial valuation was performed to determine the adequacy of the Board approved contribution rate to fund the plan. The asset values used to determine unfunded liabilities and funded ratios are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts and funded ratios using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.





Board of Trustees  
December 5, 2024  
Page 3

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,

A handwritten signature in blue ink that reads "Edward J. Koebel".

Edward J. Koebel, EA, FCA, MAAA  
Chief Executive Officer

A handwritten signature in blue ink that reads "Ben Mobley".

Ben Mobley, ASA, FCA, MAAA  
Consulting Actuary





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## SECTION I – EXECUTIVE SUMMARY

1. This report, prepared as of June 30, 2024, presents the results of the annual actuarial valuation of the Plan. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation and reported benefit amounts reflect any benefit increases granted to retirees as of July 1, 2024.

VALUATION DATE	June 30, 2024	June 30, 2023
<b>Investment Return Assumption</b>	<b>7.00%</b>	<b>7.00%</b>
Active members included in valuation		
Number	175	172
Annual compensation	\$ 9,090,777	\$ 8,425,049
Retirees		
Number	247	228
Annual allowances	\$ 1,779,151	\$ 1,633,116
Assets		
Market related actuarial value	\$ 21,994,000	\$ 21,465,000
Market value of assets (MVA)	\$ 21,868,000	\$ 20,830,000
Unfunded actuarial accrued liability (UAAL)	\$ 7,441,768	\$ 7,065,466
Funded Ratio based on actuarial value	74.7%	75.2%
Employer Fixed Contribution Rate (FCR)		
Normal Cost*	3.22%	3.21%
Accrued liability	<u>5.18</u>	<u>5.19</u>
Total	8.40%	8.40%
Payment period based on the FCR	25.5 years	26.5 years
Actuarially Determined Contribution (ADC) Rate		
Normal Cost*	3.22%	3.21%
Accrued liability	<u>5.31</u>	<u>5.36</u>
Total	8.53%	8.57%
Amortization Period for ADC	24.4 years	25.0 years
ADC Ratio to Fixed Contribution Rate	101.55%	102.02%
Unfunded actuarial accrued liability based on MVA	\$ 7,567,768	\$ 7,700,466
Funded Ratio based on market value	74.3%	73.0%

\* Includes load for administrative expenses. See Section VI for more contribution rate detail.





## SECTION I – EXECUTIVE SUMMARY

2. The valuation balance sheet showing the results and liabilities of the valuation is given in Section III.
3. Comments on the valuation results are provided in Section IV, comments on the experience and actuarial gains and losses during the valuation year are provided in Section V and the rates of contribution payable by employers are provided in Section VI and Section VII.
4. Schedule A of this report presents the development of the assets. The estimated investment return for the plan year ending June 30, 2024 on a market value of assets basis was 10.46% and on actuarial value of assets basis was 7.71%. These can be compared to the assumed rate of return for the same period of 7.00%. The market value of assets basis return may be slightly different than what PERS reports as this estimated return is assuming cash flow as of the middle of the year.
5. Schedule B details the actuarial assumptions and methods employed. There have been no changes since the previous valuation.
6. Schedule C gives a summary of the benefit and contribution provisions of the plan. There have been no changes since the previous valuation.
7. The funded ratio shown in the Summary of Principal Results is the ratio of actuarial value of assets to the actuarial accrued liability. The funded status is different based on the market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward the payment of the unfunded accrued liability. In addition, this funded ratio does not have any relationship to measuring the sufficiency if the plan had to settle its liabilities.
8. The Fixed Contribution Rate (FCR) was increased to 8.40% of annual compensation beginning July 1, 2024. As shown on page 1 of the report, the amortization period to pay off the Unfunded Actuarial Accrued Liability (UAAL) using the FCR of 8.40% is 25.5 years, which is a snapshot view of the UAAL as of the valuation date of June 30, 2024.
9. In addition, as shown on page 1 of the report, the Actuarially Determined Contribution (ADC) Rate for the 2024 valuation year is 8.53% of annual compensation and the ratio of the ADC to the FCR (8.53% to 8.40%) is calculated at 101.55% as of June 30, 2024. Per the Board's Funding Policy, which is provided in Schedule F, this actuarial metric is in the Yellow Status as the ratio is between 100% and 110%.





## SECTION I – EXECUTIVE SUMMARY

10. The projection results, shown beginning in Section IX, allow the Board to see a forecast of the System's funding progress over time, allow the Board to review the funding goals and benchmarks outlined in the funding policy, and provide the status of the metrics/targets in the Funding Policy that determines whether or not a contribution rate increase should be recommended. The objective of the current funding policy is to accumulate sufficient assets during a member's employment to fully finance the benefit the member receives throughout retirement. In order to reach that objective, some goals and benchmarks were established as follows:
- Preservation of the defined benefit structure for providing lifetime benefits to the SLRP membership,
  - Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
  - Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution,
  - Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
  - Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of the policy using a "Signal Light" approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate.
11. For SLRP, if any one of the following metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary shall determine and recommend to the Board an employer contribution rate increase to consider that is sufficient to get all three metrics back into the Green Signal Light status.
- **Funded Ratio** – defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100% funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047



## SECTION I – EXECUTIVE SUMMARY

- Cash flow as a percentage of assets – defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period

- Actuarially Determined Contribution (ADC) – defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of the funding policy:
  1. Actuarial Cost Method
  2. Asset Smoothing Method
  3. Amortization Method

The calculation of the ADC will be determined during the actuarial valuation. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by the Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate
Yellow	ADC ratio between 100% and 110% of fixed contribution rate
Red	ADC ratio above 110% of fixed contribution rate





## SECTION I – EXECUTIVE SUMMARY

12. A summary of the estimated metrics from the projection results for the next five years and in the long-term are shown in the following two tables below. More details will be shown beginning in Section IX but as you can see from the first table below, the funded ratio and cash flow percentage remain relatively stable while the ADC/FCR ratio increases over the next five years.

Valuation Year	UAAL (\$ in Thousands)	Funded Ratio	Cash Flow %	ADC/FCR Ratio
2024	\$7,442	74.7%	(4.0)%	101.6%
2025	\$7,273	75.9%	(3.5)%	101.5%
2026	\$7,890	74.5%	(3.7)%	107.1%
2027	\$7,754	75.5%	(4.2)%	108.8%
2028	\$7,587	76.5%	(4.5)%	112.4%
2029	\$7,599	76.8%	(4.4)%	113.6%

Metrics	2024 Baseline Projection	2024 Status
Funding Ratio in 2047	86.9%	Yellow
Cash Flow as a Percentage of Assets	(5.04)%	Green
ADC/FCR Ratio from 2024 Valuation	101.6%	Yellow
ADC/FCR Ratio from 2025 Valuation	101.5%	Yellow

As shown above, none of the metrics are in the “Red Status” for the valuation and projections. Therefore, we recommend to the PERS Board that the Fixed Contribution Rate (FCR) continue at a rate of 8.40% of annual compensation for SLRP at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased. The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is more or less than expected going forward.

13. The table on the following page provides a ten-year history of some pertinent figures.





## SECTION I – EXECUTIVE SUMMARY

### Comparative Schedule

Valuation Date June 30	Active Members				Retired Lives				Valuation Results (\$ thousands)		
	Number	Payroll (\$ in thousands)	Average Salary	% increase from previous year	Number	Active/ Retired Ratio	Annual Benefits (\$ thousands)	Benefits as % of Payroll	Actuarial Accrued Liability	Valuation Assets	UAAL
2015	174	\$6,861	\$39,432	(0.3)%	185	0.9	\$1,133.6	16.5%	\$21,213	\$16,098	\$5,115
2016	171	6,862	40,130	1.8	207	0.8	1,277.8	18.6	21,259	16,447	4,812
2017	174	6,928	39,817	(0.8)	205	0.8	1,279.5	18.5	21,849	17,208	4,641
2018	174	6,833	39,270	(1.4)	207	0.8	1,304.5	19.1	22,319	17,945	4,374
2019	170	6,937	40,806	3.9	215	0.8	1,372.9	19.8	22,934	18,428	4,506
2020	171	6,891	40,297	(1.2)	235	0.7	1,565.7	22.7	23,485	18,472	5,013
2021	173	8,030	46,414	15.2	233	0.7	1,596.8	19.9	25,402	19,980	5,422
2022	174	8,180	47,010	1.3	230	0.8	1,614.2	19.7	26,133	20,808	5,325
2023	172	8,425	48,983	4.2	228	0.8	1,633.1	19.4	28,530	21,465	7,065
2024	175	9,091	51,947	6.1	247	0.7	1,779.2	19.6	29,436	21,994	7,442





## SECTION II – MEMBERSHIP DATA

Data regarding the membership of the Plan for use as a basis for the valuation were furnished by the Plan's office. The following tables summarize the membership of the Plan as of June 30, 2024 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

### Active Members

Employers	Number of Employers	Number	Payroll	Group Averages		
				Salary	Age	Benefit Service*
State Agencies	4	175	\$ 9,090,777	\$51,947	55.7	9.8

\* Eligibility service is 14.5 years.

Of the 175 active members, 103 are vested and 72 are non-vested.

### Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages	
			Benefit	Age
Retirement	191	\$1,404,372	\$7,353	74.4
Disability	1	9,369	9,369	69.5
Survivor	55	365,410	6,644	71.6
Total in SLRP	247	\$1,779,151	\$7,203	73.7

### Deferred Vested/Inactive Lives

Type of Member	No.	Annual Deferred Benefits	Outstanding Balance
Deferred Vested – Benefit Included	35	\$112,444	N/A
Inactive	30	N/A	\$348,899
Total in SLRP	65	\$112,444	\$348,899

For the liability in this valuation, deferred vested participants with benefits provided are valued assuming a retirement age of 60 and for inactive members, account balances are multiplied by two to estimate liabilities and interest in the future.







## SECTION III – VALUATION BALANCE SHEET

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The following valuation balance sheet shows the assets and liabilities of the retirement plan as of the current valuation date of June 30, 2024 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2023. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

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## SECTION III – VALUATION BALANCE SHEET

### VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE SUPPLEMENTAL LEGISLATIVE RETIREMENT PLAN OF MISSISSIPPI

	JUNE 30, 2024	JUNE 30, 2023
<b>ASSETS</b>		
Current actuarial value of assets:		
Annuity Savings Account	\$ 2,473,636	\$ 2,779,013
Annuity Reserve	4,574,371	4,043,564
Employers' Accumulation Account	<u>14,945,993</u>	<u>14,642,423</u>
Total current assets	\$ 21,994,000	\$ 21,465,000
 Future member contributions to Annuity Savings Account	 \$ 2,019,366	 \$ 1,552,383
 Prospective contributions to Employer's Accumulation Account		
Normal contributions	\$ 2,156,562	\$ 1,627,961
Unfunded actuarial accrued liability contributions	<u>7,441,768</u>	<u>7,065,466</u>
Total prospective contributions	<u>\$ 9,598,330</u>	<u>\$ 8,693,427</u>
Total assets	<u>\$ 33,611,696</u>	<u>\$ 31,710,810</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 18,489,360	\$ 16,856,675
 Present value of benefits payable on account of inactive members for service rendered before the valuation date	 1,398,320	 1,289,096
 Present value of benefits payable on account of active members	 <u>\$ 13,724,016</u>	 <u>\$ 13,565,039</u>
Total liabilities	<u>\$ 33,611,696</u>	<u>\$ 31,710,810</u>





## SECTION III – VALUATION BALANCE SHEET

### BREAKDOWN OF TOTAL AND ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2024

	Total Liability	Actuarial Accrued Liability
Active Members		
Retirement	\$ 11,348,488	\$ 8,609,729
Death	632,649	442,288
Disability	170,024	60,038
Termination	<u>1,572,855</u>	<u>436,033</u>
Total	\$ 13,724,016	\$ 9,548,088
Retirees		
Retirement	\$ 15,139,994	\$ 15,139,994
Survivor	3,273,002	3,273,002
Disability	<u>76,364</u>	<u>76,364</u>
Total	\$ 18,489,360	\$ 18,489,360
Deferred Vested Members	1,049,421	1,049,421
Inactive Members	<u>348,899</u>	<u>348,899</u>
Total Actuarial Values	\$ 33,611,696	\$ 29,435,768
Actuarial Value of Assets		<u>21,994,000</u>
Unfunded Actuarial Accrued Liability		\$ 7,441,768

The total liability is the present value of future benefits for all current members as of the valuation date. The accrued liability is the present value of benefits that have been accrued as of the valuation date. Since all inactive members and retirees have accrued their full benefits, the total liability and accrued liability are the same. For actives, the difference between the total liability and the accrued liability is the present value of all future accruals.





## SECTION IV – COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the Plan as of June 30, 2024.

### Total Assets

The Annuity Savings Account is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his or her accumulated contributions is transferred from the Annuity Savings Account to the Annuity Reserve. The Employer's Accumulation Account is the fund to which are credited employer contributions and investment income, and from which are paid all employer-provided benefits under the plan. The assets credited to the Annuity Savings Account as of the valuation date, which represent the accumulated contributions of members to that date, amounted to \$2,473,636. The assets credited to the Annuity Reserve were \$4,574,371 and the assets credited to the Employer's Accumulation Account totaled \$14,945,993. Current actuarial assets as of the valuation date equaled the sum of these three funds, \$21,994,000. Future member contributions to the Annuity Savings Account were valued to be \$2,019,366. Prospective contributions to the Employer's Accumulation Account were calculated to be \$9,598,330 of which \$2,156,562 is attributable to service rendered after the valuation date (normal contributions) and \$7,441,768 is attributable to service rendered before the valuation date (unfunded actuarial accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the Plan to be \$33,611,696 as of June 30, 2024.

### Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled \$18,489,360 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to \$13,724,016. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$1,398,320.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the Plan to be \$33,611,696 as of June 30, 2024.

Section 25-11-307(1) of State law requires that active members contribute 3.00% of annual compensation to the Plan.





## SECTION IV – COMMENTS ON VALUATION

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Section 25-11-307(2) requires that the State contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the Plan. These individual contribution percentages are established in accordance with an actuarial valuation. Based on the funding policy adopted by the Board in 2023, the employer rate was set at 8.40% of annual compensation beginning July 1, 2024 and the amortization period is calculated on an open basis. Therefore, the amortization period for the June 30, 2024 valuation is 25.5 years, compared to 26.5 years for the previous valuation.

There was a loss on the unfunded actuarial accrued liability for the fiscal year ending June 30, 2024 of approximately \$381.0 thousand (shown on the next page) which was primarily due greater than expected salary increases for the year, mortality experience (less deaths than assumed) offset by gains due to less retirements than expected during the year.

See page 15 for a reconciliation of the amortization period. See Schedule E for a complete analysis of the Financial Experience.





## SECTION V – DERIVATION OF EXPERIENCE GAINS & LOSSES

Actual experience will never (except by coincidence) match exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Details on the derivation of the experience gain/(loss) for the years ended June 30, 2024 and June 30, 2023 are shown below.

	2024 Valuation \$ Thousands	2023 Valuation \$ Thousands
(1) UAAL* as of beginning of year	\$ 7,065.5	\$ 5,325.0
(2) Total normal cost from last valuation	441.7	423.2
(3) Total contributions	939.0	884.0
(4) Interest Rate (Beginning of Year)	7.00%	7.55%
(5) Interest accrual: [[ (1) + (2) ] x (4) ] - [ (3) x ((4) / 2) ]	<u>492.6</u>	<u>400.6</u>
(6) Expected UAAL before changes: (1) + (2) – (3) + (5)	\$ 7,060.8	\$ 5,264.8
(7) Change due to plan amendments	0.0	0.0
(8) Change due to actuarial assumptions or methods	<u>0.0</u>	<u>1,573.3</u>
(9) Expected UAAL after changes: (6) + (7) + (8)	\$ 7,060.8	\$ 6,838.1
(10) Actual UAAL as of end of year	\$ 7,441.8	\$ 7,065.5
(11) Gain/(loss): (9) – (10)	\$ (381.0)	\$ (227.4)
(12) Gain/(loss) as percent of actuarial accrued liabilities at start of year.	(1.3)%	(0.9)%

\*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2019	(0.2)%
2020	(2.0)
2021	(0.4)
2022	0.6
2023	(0.9)
2024	(1.3)





## SECTION VI – FIXED CONTRIBUTION RATE (FCR)

1. The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement Plan. The following table shows the rates of contribution payable by employers as determined from the present valuation for the fiscal year and a comparison to the previous valuation results.

Contribution for	2024 Valuation	2023 Valuation
Investment Return Assumption	7.00%	7.00%
Total Normal Cost:		
Service retirement benefits	5.62%	5.60%
Disability benefits	0.15%	0.15%
Survivor benefits	0.30%	0.31%
Total	6.07%	6.06%
Less Member Contributions:	3.00%	3.00%
Employer Normal Cost	3.07%	3.06%
Administrative Expense Load	0.15%	0.15%
Total Employer Normal Cost Rate	3.22%	3.21%
Unfunded Actuarial Accrued Liabilities (25.5 year level % of payroll amortization*)	5.18%	5.19%
Total Employer Fixed Contribution Rate (FCR)	8.40%	8.40%

\*Amortization period a year ago was 26.5 years.

2. The current funding policy has set the employer contribution rate to 8.40% of payroll and kept the amortization period open-ended. Thirty-year projections are completed to determine if an increase or decrease in the employer contribution rate is warranted according to the metrics set forth in the funding policy. Please see Schedule F for the current funding policy.





**SECTION VI – FIXED CONTRIBUTION RATE (FCR)**

3. The components of the change in the computed unfunded actuarial accrued liability amortization period from 26.5 years to 25.5 years are as follows:

Previously Reported Period	26.5 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	1.6
Net Assumption changes/FCR Change	0.0
Plan amendments	0.0
Contribution Shortfall/(Excess)	(1.6)
Computed Period	25.5 years







## SECTION VII – ACTUARIALLY DETERMINED CONTRIBUTION RATE (ADC)

1. One of the metrics in the Funding Policy, as shown in Schedule F, is to calculate the Actuarially Determined Contribution (ADC) based on the principal elements of the Amortization Method disclosed in the Funding Policy. The ratio of the ADC to the Fixed Contribution Rate (ADC/FCR) as set by this Funding Policy will be tested with each valuation. The Funding Policy provides that the unfunded actuarial accrued liability as of June 30, 2023 (Transitional UAAL) will be amortized as a level percentage of payroll over a closed 25-year period. In each subsequent valuation, all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation will combine to determine a New Incremental UAAL. Each New Incremental UAAL will be amortized as a level percentage of payroll over a closed 25-year period from the date it is established.
2. The following table shows the components of the total Unfunded Actuarial Accrued Liability (UAAL) and the derivation of the UAAL Contribution Rate in accordance with the funding policy as of the valuation date:

**TOTAL UAAL AND UAAL CONTRIBUTION RATE**

Date Established	Original UAAL Balance	Remaining UAAL Balance	Remaining Amortization Period	Amortization Payment
June 30, 2023	\$7,065,466	\$7,084,052	24 years	\$472,357
June 30, 2024	\$357,716	\$357,716	25 years	\$23,298
Total		\$7,441,768		\$495,655
Estimated Payroll				\$9,331,683
UAAL Amortization Contribution Rate				5.31%





## SECTION VII – ACTUARIALLY DETERMINED CONTRIBUTION RATE (ADC)

3. The calculation of Actuarial Determined Contribution (ADC) for the past two valuations is shown below:

Funding Policy ADC Metric Test		
Valuation Date June 30	2024	2023
Actuarially Determined Contribution (ADC) rate		
Normal Cost*	3.22%	3.21%
Accrued liability	<u>5.31</u>	<u>5.36</u>
Total	8.53%	8.57%
Fixed Contribution Rate (FCR)	8.40%	8.40%
Ratio of ADC to FCR	101.55%	102.02%
Funding Policy Metric Status	Yellow	Yellow
Anticipated accrued liability payment period	24.4 years	25.0 years

\* Estimated budgeted administrative expenses are included in the normal cost rate

Since the Ratio of ADC to FCR is between 100% and 110% and the Metric Status is in the “Yellow Status” for the 2024 valuation, per the Funding Policy, we recommend no change in the Fixed Contribution Rate of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased. The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is less than expected going forward.





**SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION**

1. The following supplemental disclosure information is provided for informational purposes only. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS  
AS OF JUNE 30, 2024**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	247
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	65
Active Participants	<u>175</u>
Total	487





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

2. Another such item is the schedule of funding progress as shown below. As can be seen in column 3 of the table below, the funded ratio has remained in a narrow range since 2017 with a decrease last year due to the assumption changes, including the change in the investment return assumption from 7.55% to 7.00%. In addition, the UAAL as a percentage of payroll, shown in column 6, has increased this valuation.

### SCHEDULE OF FUNDING PROGRESS

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Funded Ratio (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/2015#	\$16,098,000	\$21,213,446	75.9%	\$5,115,446	\$6,861,166	74.6%
06/30/2016	16,447,000	21,258,800	77.4	4,811,800	6,862,262	70.1
06/30/2017#	17,208,000	21,848,868	78.8	4,640,868	6,928,085	67.0
06/30/2018	17,945,000	22,318,685	80.4	4,373,685	6,832,961	64.0
06/30/2019#	18,428,000	22,933,853	80.4	4,505,853	6,937,075	65.0
06/30/2020	18,472,000	23,484,818	78.7	5,012,818	6,890,817	72.7
06/30/2021#	19,980,000	25,402,264	78.7	5,422,264	8,029,670	67.5
06/30/2022	20,808,000	26,133,030	79.6	5,325,030	8,179,673	65.1
06/30/2023#	21,465,000	28,530,466	75.2	7,065,466	8,425,049	83.9
06/30/2024	21,994,000	29,435,768	74.7	7,441,768	9,090,777	81.9

# After change in actuarial assumptions.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

3. Additional information as of the latest valuation that went into the calculation of the Actuarially Determined Contribution (ADC) are as follows:

Valuation date	6/30/2024
Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period on ADC basis	24.4 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return (discount rate)*	7.00%
Projected salary increases*	2.65%
Cost-of-living adjustments	3.00% per annum

\* Includes price inflation at 2.40%





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Solvency Tests (\$ in Thousands)

Valuation Date	Actuarial Accrued Liabilities for				Portions of Accrued Liabilities Covered by Assets		
	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion	Net Assets Available for Benefits	(1)	(2)	(3)
6/30/2015	\$2,862	\$12,329	\$6,023	\$16,098	100.0%	100.0%	15.1%
6/30/2016	2,485	13,758	5,016	16,447	100.0	100.0	4.1
6/30/2017	2,636	13,799	5,414	17,208	100.0	100.0	14.3
6/30/2018	2,693	13,840	5,786	17,945	100.0	100.0	24.4
6/30/2019	2,701	14,282	5,951	18,428	100.0	100.0	24.3
6/30/2020	2,145	16,356	4,983	18,472	100.0	99.8	0.0
6/30/2021	2,331	16,275	6,796	19,980	100.0	100.0	20.2
6/30/2022	2,611	16,053	7,469	20,808	100.0	100.0	28.7
6/30/2023	2,779	16,857	8,895	21,465	100.0	100.0	20.6
6/30/2024	2,474	18,489	8,473	21,994	100.0	100.0	12.2

As can be seen from the table above, the SLRP plan assets currently cover 100% of the active member contribution account balances and 100% of the retiree liability as of the valuation date. However, the remaining assets only cover a small percentage of the employer financed active liabilities.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Number	Active Members		% Increase in Average Pay
			Annual Payroll	Annual Average Pay	
2015	5	174	\$6,861,166	\$39,432	(0.3)%
2016	5	171	6,862,262	40,130	1.8
2017	5	174	6,928,085	39,817	(0.8)
2018	5	174	6,832,961	39,270	(1.4)
2019	5	170	6,937,075	40,806	3.9
2020	5	171	6,890,817	40,297	(1.2)
2021	5	173	8,029,670	46,414	15.2
2022	4	174	8,179,673	47,010	1.3
2023	4	172	8,425,049	48,983	4.2
2024	4	175	9,090,777	51,947	6.1

### Schedule of Number of Retirants Added To and Removed From Rolls\* Last Ten Fiscal Years

Item	Fiscal Year Ended June 30									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning of Year	187	185	207	205	207	215	235	233	230	228
Added	8	28	6	6	11	24	3	1	9	28
Removed	(10)	(6)	(8)	(4)	(3)	(4)	(5)	(4)	(11)	(9)
End of Year	185	207	205	207	215	235	233	230	228	247

\*See Schedule D for a breakdown by type of retirement.





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Annual Benefit Payments Added To and Removed From Rolls Last Seven Fiscal Years

Year Ending	2018	2019	2020	2021	2022	2023	2024
Beginning of Year	\$1,279,471	\$1,304,548	\$1,372,878	\$1,565,656	\$1,596,810	\$1,614,217	\$1,633,116
Added	34,983	72,406	216,379	14,393	2,970	66,878	150,895
Removed	(42,480)	(43,651)	(64,124)	(26,951)	(34,377)	(84,837)	(57,548)
Benefit increase due to annual COLA	32,574	39,575	40,523	43,712	48,814	36,858	52,688
Benefit increase due to plan amendments	0	0	0	0	0	0	0
End of Year	\$1,304,548	\$1,372,878	\$1,565,656	\$1,596,810	\$1,614,217	\$1,633,116	\$1,779,151







## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Average Benefit Payments

		Years of Credited Service							TOTAL	
		0-9	10-14	15-19	20-24	25	26-29	30		31+
July 1, 2023 to June 30, 2024										
Average Monthly Benefit		\$198.42	\$287.32	\$463.58	\$565.48		\$973.07		\$1,039.15	\$449.09
Average Final Salary		\$35,937.36	\$31,089.75	\$20,301.36	\$35,957.26		\$46,679.04		\$47,126.32	\$35,196.03
Number of Active Retirants		8	7	2	7		1		3	28
July 1, 2022 to June 30, 2023										
Average Monthly Benefit		\$435.87	\$232.89	\$639.34	\$1,103.21				\$926.91	\$619.24
Average Final Salary		\$39,251.46	\$35,025.72	\$46,070.28	\$58,191.24				\$45,845.00	\$43,397.35
Number of Active Retirants		2	2	2	1				2	9
July 1, 2021 to June 30, 2022										
Average Monthly Benefit		\$123.42								\$123.42
Average Final Salary		\$31,733.04								\$31,733.04
Number of Active Retirants		1								1
July 1, 2020 to June 30, 2021										
Average Monthly Benefit		\$192.21					\$815.03			\$399.82
Average Final Salary		\$32,588.76					\$44,865.25			\$36,680.92
Number of Active Retirants		2					1			3
July 1, 2019 to June 30, 2020										
Average Monthly Benefit		\$244.53	\$334.26	\$551.15	\$799.36		\$969.20		\$713.07	\$657.06
Average Final Salary		\$36,523.16	\$40,009.26	\$32,107.39	\$39,043.63		\$34,675.32		\$42,094.84	\$37,017.34
Number of Active Retirants		3	2	5	7		4		3	24





## SECTION VIII – SUPPLEMENTAL DISCLOSURE INFORMATION

### Schedule of Average Benefit Payments

	Years of Credited Service							TOTAL
	0-9	10-15	16-20	21-24	25	26-29	30	
July 1, 2018 to June 30, 2019								
Average Monthly Benefit	\$169.43	\$372.79	\$636.97	\$742.14		\$738.58		\$548.53
Average Final Salary	\$24,872.76	\$42,782.28	\$42,042.72	\$42,479.52		\$40,654.56		\$38,076.62
Number of Active Retirants	3	2	1	2		1		11
July 1, 2017 to June 30, 2018								
Average Monthly Benefit	\$33.20		\$538.18	\$512.85				\$485.87
Average Final Salary	\$20,839.50		\$40,100.76	\$41,549.28				\$27,732.60
Number of Active Retirants	2		1	2				6
July 1, 2016 to June 30, 2017								
Average Monthly Benefit	\$180.95		\$609.42	\$452.29	\$732.45			\$434.72
Average Final Salary	\$29,821.02		\$37,791.24	\$28,377.72	\$40,932.00			\$32,520.12
Number of Active Retirants	2		1	2	1			6
July 1, 2015 to June 30, 2016								
Average Monthly Benefit	\$249.59	\$349.70	\$486.61	\$654.27	\$522.12			\$527.40
Average Final Salary	\$36,599.58	\$39,877.51	\$35,210.67	\$39,774.39	\$41,482.12		\$1,200.33	\$38,850.14
Number of Active Retirants	6	6	4	7	2		3	28
July 1, 2014 to June 30, 2015								
Average Monthly Benefit	\$163.64	\$739.53	\$720.77		\$578.67			\$607.33
Average Final Salary	\$18,636.25	\$68,228.41	\$37,911.50		\$34,790.50		\$1,032.05	\$40,911.48
Number of Active Retirants	2	2	2		1		1	8





## SECTION IX – PROJECTION RESULTS

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Annual actuarial valuations are performed for SLRP which re-measure the assets and liabilities and the adequacy of the contribution rate. Actuarial projections are also performed every year with sensitivity testing of several factors. SLRP also has experience studies performed every two years to analyze the discrepancies between actuarial assumptions and actual experience and determine if the actuarial assumptions need to be changed. Annual actuarial valuations and projections and periodic experience studies are practical ways to monitor and reassess risk.

As mentioned earlier in the report, the intended purpose of the projection results is to help assess the Plan's funding progress and to provide information to decision makers to help ensure that the applicable pension liabilities and funding mechanisms are managed in a manner that promotes sustainability.

The projection process should be viewed as an enhancement to the actuarial valuation control cycle by providing additional evaluation metrics to assess the need for further, in-depth analysis of the risks to the Plan's sustainability. The actuarial valuation control cycle is a key component of managing a long-term liability whose ultimate value is based upon uncertain future events. As the ultimate value of future cash flows cannot be predicted with certainty, pension liabilities are managed in the short-term through the continuous monitoring of economic and demographic assumptions, with a keen eye on the identification, measurement, and management of risks.

The projection process, like other actuarial modeling, is not intended to provide absolute results. The intended purpose of the projection process is to identify anticipated trends and to compare various outcomes, under a given methodology, rather than predicting certain future events. The results produced by the projection process do not predict the financial condition of the Plan or the Plan's ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the Plan. Because actual experience will not unfold exactly as expected, actual results can be expected to differ from the results presented herein. To the extent actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than the expected outcome indicated in this report.





## SECTION IX – PROJECTION RESULTS

### ***SPECIAL ASSUMPTIONS***

In addition to the regular valuation assumptions used in performing the annual actuarial valuations of SLRP, additional assumptions must be made that are unique to projections. The first of these is what, if any, change in the overall active membership will be anticipated. For this projection study, it was assumed that the number of active members would remain static over the 30-year projection period.

Since we assume active members will leave the system through termination, death, disability, or retirement, we need to make some assumptions as to the composition of new hires that will replace departing members in order to maintain the membership at a constant number. The new entrant profile we developed was based on the new hires over the 4-year period prior to the projection start date of June 30, 2024.

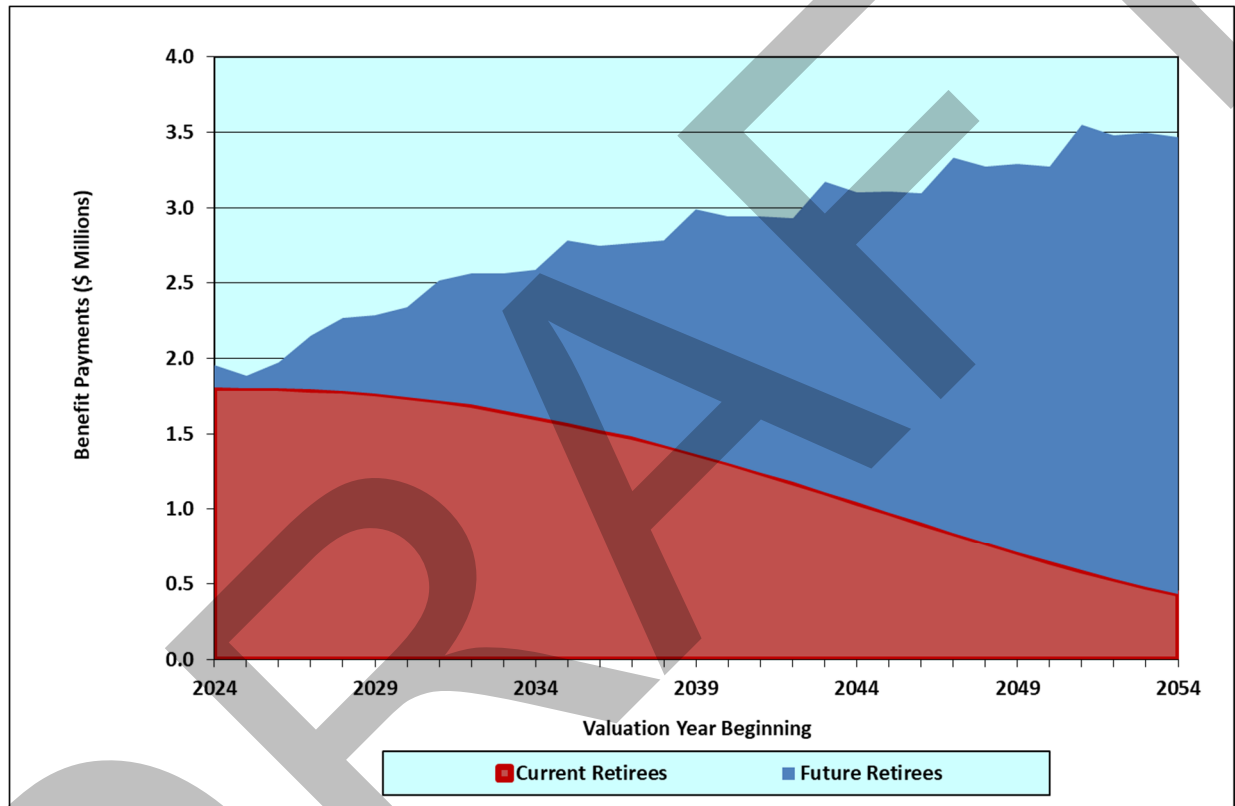
It is important to note that an eligibility service load of 2.50 years was included in the new entrant profile as the census data shows more and more active members in SLRP are entering the Plan with service from the PERS plan. The new entrant profile is summarized in the table below.

Age	Average Pay	Percent Male	Weight
30	\$46,000	80%	15%
39	\$47,000	80%	15%
45	\$47,000	80%	25%
52	\$49,000	80%	15%
57	\$46,000	80%	19%
67	\$49,000	80%	11%



## SECTION IX – PROJECTION RESULTS

For the projection results presented in this section of the report, it was further assumed that the benefit structure as it exists on June 30, 2024 would remain in place for the following 30 years. The following graph shows the projection of benefit payments of SLRP members. The red area of the graph represents the benefit payments for current retirees and the blue area represents the benefit payments for any future retirees. The jagged outline of this blue area is a result of our assumption that most retirements occur every 4 years (after an election year). SLRP currently pays approximately \$1.8 million in benefit payments to its retirees but over the 30-year period, that amount is expected to nearly double.





## SECTION IX – PROJECTION RESULTS

### ***FUTURE MEMBERSHIP***

The following chart and graph show the headcounts of active participants and retired members over the projection period. The actives are broken down into those existing as of June 30, 2024 and those who are hired after June 30, 2024. We have assumed the active membership will continue at the current maximum population of 175 active members over the projected period. As can be seen from the chart below, the retiree and deferred vested headcount begins to drop as retiree deaths outnumber new retirees.

Member	2024	2029	2034	2044	2047	2054
Active – Existing Employees	175	112	71	18	15	5
Active – New Entrants	0	63	104	157	160	170
Retired/Deferred Vesteds	282	294	281	249	225	205
Total	457	469	456	424	400	380





## SECTION IX – PROJECTION RESULTS

### PROJECTION RESULTS

The baseline projection results shown below use the same actuarial assumptions as used in the June 30, 2024 actuarial valuation report. In addition, the projection results using a different long-term investment return assumptions for future valuations (6.50%) is included below.

#### Baseline Projection Results (7.00%) (\$ in Thousands)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$9,091	\$9,902	\$10,960	\$13,783	\$14,808	\$17,649
UAAL	\$7,442	\$7,599	\$7,533	\$6,483	\$5,760	\$2,401
Normal Cost Rate	3.22%	3.77%	4.03%	4.29%	4.31%	4.21%
UAAL Rate	5.18%	4.63%	4.37%	4.11%	4.09%	4.19%
FCR Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funded Ratio	74.7%	76.9%	78.9%	84.4%	<b>86.9%</b>	95.2%
Amortization Period	25 years	28 years	25 years	15 years	12 years	3 years
ADC	8.53%	9.52%	10.26%	12.19%	12.94%	6.87%
ADC Ratio	101.6%	113.3%	122.2%	145.1%	154.1%	81.8%
Cash Flow %	(4.0)%	(4.4)%	(4.6)%	(4.2)%	(4.1)%	(2.9)%

#### Projection Results Assuming 6.50% Long-Term Investment Return (\$ in Thousands)

	2024	2029	2034	2044	2047	2054
Total Payroll	\$9,091	\$9,902	\$10,960	\$13,783	\$14,808	\$17,649
UAAL	\$8,964	\$9,861	\$10,872	\$13,556	\$14,577	\$17,008
Normal Cost Rate	3.88%	4.47%	4.75%	5.02%	5.05%	4.94%
UAAL Rate	4.52%	3.93%	3.65%	3.38%	3.35%	3.46%
FCR Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funded Ratio	71.0%	71.4%	70.9%	68.9%	<b>68.4%</b>	67.8%
Amortization Period	32 years	72 years	100 years	100 years	100 years	100 years
ADC	9.96%	11.55%	13.07%	17.43%	19.21%	12.57%
ADC Ratio	118.6%	137.5%	155.6%	207.5%	228.7%	149.7%
Cash Flow %	(4.0)%	(4.5)%	(4.9)%	(4.9)%	(5.0)%	(3.8)%





## SECTION IX – PROJECTION RESULTS

The first graph that follows shows the projection of the Unfunded Accrued Liability (UAL), Actuarial Value of Assets and the Funded Ratio under the baseline valuation (assuming 7.00%) from the amounts shown in the baseline table on the previous page. As you can see from the graph, under the current assumptions, the funded ratio is expected to increase steadily over the entire projection period.

The second graph shows the projection of the calculated Actuarially Determined Contribution (ADC) based on the Board's Funding Policy and the current Fixed Contribution Rate (FCR) of 8.40% under the baseline valuation. As you can see from the graph, the ADC is expected to increase over the next five years as the investment losses from the past valuations are fully recognized. After this initial period, the ADC is then expected to increase even further for the remaining projection period, as the valuation results continue to include contribution deficiency shortfalls due to the difference between the ADC and FCR. The drop in the ADC near the end of the projection period is a result of the initial 2023 UAL base of \$7.1 Million being paid off, based on the closed amortization period per the Board's Funding Policy.

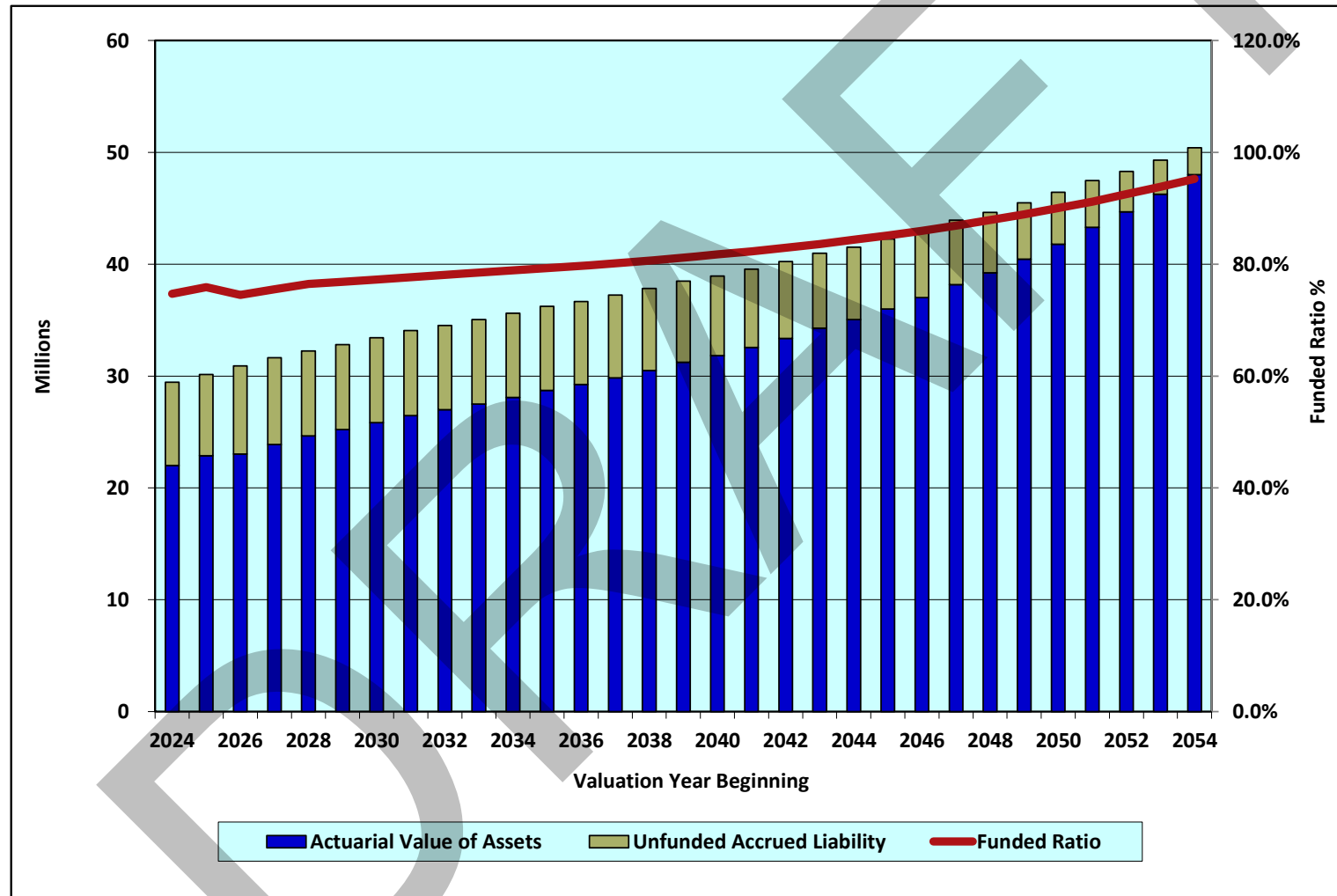






## SECTION IX – PROJECTION RESULTS

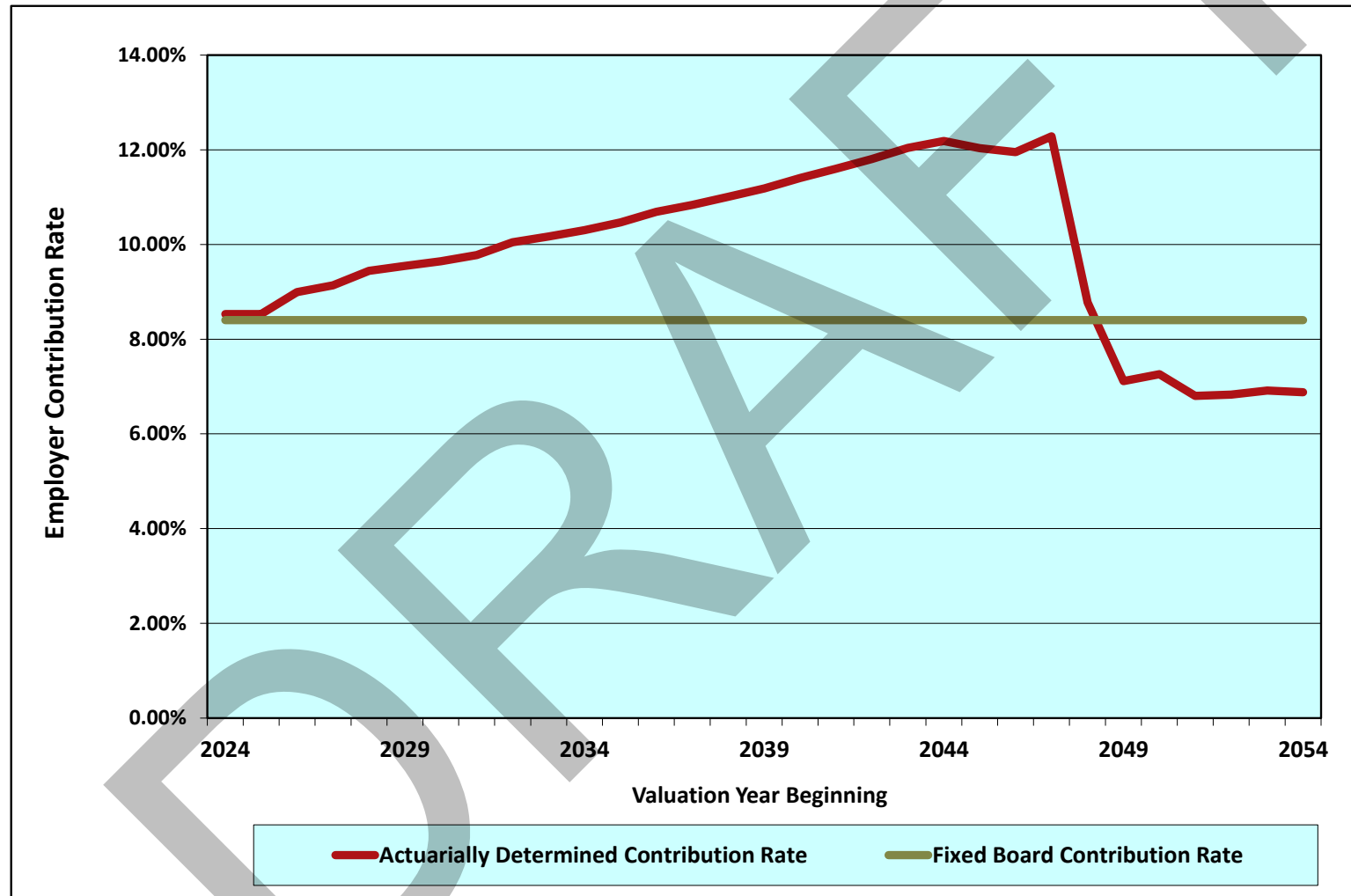
Mississippi PERS – SLRP Plan  
30 Year Projection of Funded Ratio on Actuarial Asset Value  
Based on June 30, 2024 Valuation Results





## SECTION IX – PROJECTION RESULTS

Mississippi PERS – SLRP Plan  
30 Year Projection of the Employer Contribution Rates  
Based on June 30, 2024 Valuation Results





## SECTION X – CASH FLOW PROJECTIONS

### *CASH FLOW PROJECTIONS*

The funded ratio is the primary measure of funded status of a pension plan and, thereby, the most common measurement used for drawing conclusions on funding progress. The funded ratio is the ratio of the actuarial value of assets to the actuarial or accrued liability of the system as calculated by the funding method used in developing system contribution levels. When using the funded ratio in assessing trends over several valuations, we recommend that the basis for determining both the assets and liabilities in the ratio are taken into consideration and reasonable efforts are made to adjust the ratio to reflect these differences when they are known. On a consistent basis, an increasing funded ratio would typically indicate progress in meeting the obligations of the system. In most cases, other measures should also be considered in a trend assessment. These may include the trend in the length of the amortization period, the required contribution rate, percentage of required contributions funded, and the unfunded actuarial liability as a percentage of payroll. Focusing solely on any one measure as the indication of funding progress is an over-simplification of a complex and dynamic system.

Another of those additional metrics is an outlook on the cash flow as a percentage of assets for the System. Most retirement systems are funded with an advance-funding mechanism, meaning contributions and investment earnings are earned during a member's active lifetime in order to pay for the benefit payments during his retirement years. Many mature retirement systems, like SLRP, have negative cash flow, where benefit payments paid out of the trust are more than the contributions being collected by employers and employees.





## SECTION X – CASH FLOW PROJECTIONS

For the fiscal year ending June 30, 2025, we are projecting SLRP to have a negative cash flow of approximately \$0.9 Million (benefit payments of \$2.0 Million and contributions of \$1.1 Million). With a market value of assets of \$21.9 Million as of June 30, 2024, the cash flow as a percentage of assets is estimated to be negative 4.00% for the 2025 fiscal year. While the market value of assets is assumed to earn 7.00% each year, the difference between the investment return assumption and the negative cash flow percentage is positive, meaning assets are projected to grow for the 2025 fiscal year. When assets do not earn a positive return enough to cover this negative cash flow percentage, assets are expected to decline for the year. If the negative cash flow percentage does not grow more than the assumed investment return assumption, the System's assets will continue to increase, and sustainability of the plan may be achieved.

The tables on the following pages demonstrate the open group projection of cash flow on the baseline assumption and then a sensitivity analysis, using a one-year return of negative 5.00% for the fiscal year ending June 30, 2025. These results demonstrate the projection of this metric if SLRP experiences one significant bad investment year in one of the next five years without a correction in the market. As can be seen from the table on page 36, the cash flow as a percentage of market value of assets does not at any point get less than negative 5.04% on the baseline assumptions, meaning that SLRP assets should continue to increase as long as all baseline actuarial assumptions are met.

However, if there is a significant negative investment experience in one of the next five years (as seen on the table on page 37), the negative cash flow will be almost as much as the investment experience of the Plan and while the SLRP assets will continue to grow it will not be at the same levels for most of the projection period.

This metric will continue to be monitored as part of the funding policy under the baseline assumptions to ensure the continued growth of SLRP assets during the projection period.





## SECTION X – CASH FLOW PROJECTIONS

### Mississippi PERS 30-year Open Group Projection of Cash Flow SLRP Plan Based on June 30, 2024 Valuation Results

#### Projection of Cash Flow

Contribution Methodology:  
Investment Return Methodology:

Employee and Employer Contributions  
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2024	7.00%	9,331,683	21,868,000	1,082,289	(1,956,507)	-4.00%	1,500,680	626,462	22,494,462	2025
2025	7.00%	9,519,645	22,494,462	1,104,088	(1,888,216)	-3.49%	1,547,632	763,505	23,257,966	2026
2026	7.00%	9,735,113	23,257,966	1,129,078	(1,976,953)	-3.65%	1,598,884	751,010	24,008,976	2027
2027	7.00%	9,922,956	24,008,976	1,150,864	(2,150,797)	-4.16%	1,646,223	646,290	24,655,266	2028
2028	7.00%	9,901,862	24,655,266	1,148,418	(2,267,577)	-4.54%	1,687,361	568,202	25,223,468	2029
2029	7.00%	10,134,758	25,223,468	1,175,429	(2,288,930)	-4.41%	1,727,329	613,828	25,837,296	2030
2030	7.00%	10,366,492	25,837,296	1,202,306	(2,343,136)	-4.42%	1,769,357	628,527	26,465,822	2031
2031	7.00%	10,605,201	26,465,822	1,229,991	(2,518,666)	-4.87%	1,808,267	519,592	26,985,415	2032
2032	7.00%	10,701,911	26,985,415	1,241,208	(2,567,108)	-4.91%	1,843,357	517,456	27,502,871	2033
2033	7.00%	10,960,270	27,502,871	1,271,172	(2,566,887)	-4.71%	1,880,618	584,903	28,087,774	2034
2034	7.00%	11,229,260	28,087,774	1,302,370	(2,585,915)	-4.57%	1,921,980	638,435	28,726,209	2035
2035	7.00%	11,501,679	28,726,209	1,333,965	(2,780,614)	-5.04%	1,961,058	514,408	29,240,618	2036
2036	7.00%	11,670,873	29,240,618	1,353,588	(2,747,860)	-4.77%	1,998,869	604,597	29,845,214	2037
2037	7.00%	11,963,465	29,845,214	1,387,523	(2,768,249)	-4.63%	2,041,657	660,931	30,506,145	2038
2038	7.00%	12,254,677	30,506,145	1,421,297	(2,781,170)	-4.46%	2,088,640	728,768	31,234,913	2039
2039	7.00%	12,557,964	31,234,913	1,456,473	(2,987,206)	-4.90%	2,133,774	603,041	31,837,954	2040
2040	7.00%	12,788,498	31,837,954	1,483,210	(2,945,392)	-4.59%	2,178,346	716,164	32,554,118	2041
2041	7.00%	13,112,432	32,554,118	1,520,780	(2,941,723)	-4.36%	2,229,896	808,953	33,363,071	2042
2042	7.00%	13,442,873	33,363,071	1,559,104	(2,932,954)	-4.12%	2,288,144	914,295	34,277,366	2043
2043	7.00%	13,782,786	34,277,366	1,598,528	(3,170,438)	-4.59%	2,345,329	773,418	35,050,784	2044
2044	7.00%	14,075,431	35,050,784	1,632,468	(3,104,035)	-4.20%	2,402,921	931,354	35,982,138	2045
2045	7.00%	14,438,929	35,982,138	1,674,627	(3,106,159)	-3.98%	2,469,493	1,037,961	37,020,100	2046
2046	7.00%	14,807,982	37,020,100	1,717,430	(3,096,856)	-3.73%	2,543,944	1,164,517	38,184,617	2047
2047	7.00%	15,185,374	38,184,617	1,761,200	(3,330,821)	-4.11%	2,618,916	1,049,295	39,233,912	2048
2048	7.00%	15,544,229	39,233,912	1,802,820	(3,274,351)	-3.75%	2,695,741	1,224,210	40,458,122	2049
2049	7.00%	15,948,660	40,458,122	1,849,726	(3,290,599)	-3.56%	2,782,491	1,341,618	41,799,739	2050
2050	7.00%	16,357,514	41,799,739	1,897,144	(3,271,404)	-3.29%	2,878,696	1,504,437	43,304,176	2051
2051	7.00%	16,781,955	43,304,176	1,946,371	(3,552,421)	-3.71%	2,976,031	1,369,982	44,674,157	2052
2052	7.00%	17,201,748	44,674,157	1,995,059	(3,477,033)	-3.32%	3,076,199	1,594,224	46,268,382	2053
2053	7.00%	17,648,603	46,268,382	2,046,885	(3,497,361)	-3.13%	3,188,879	1,738,403	48,006,785	2054
2054	7.00%	18,107,383	48,006,785	2,100,094	(3,470,960)	-2.86%	3,313,306	1,942,440	49,949,225	2055





## SECTION X – CASH FLOW PROJECTIONS

### Mississippi PERS 30-year Open Group Projection of Cash Flow SLRP Plan Based on June 30, 2024 Valuation Results

#### Projection of Cash Flow

Contribution Methodology:  
Investment Return Methodology:

Employee and Employer Contributions  
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2024	-5.00%	9,331,683	21,868,000	1,082,289	(1,956,507)	-4.00%	(1,071,264)	(1,945,482)	19,922,518	2025
2025	7.00%	9,519,645	19,922,518	1,104,088	(1,888,216)	-3.94%	1,367,596	583,469	20,505,986	2026
2026	7.00%	9,735,113	20,505,986	1,129,078	(1,976,953)	-4.13%	1,406,245	558,371	21,064,357	2027
2027	7.00%	9,922,956	21,064,357	1,150,864	(2,150,797)	-4.75%	1,440,099	440,166	21,504,523	2028
2028	7.00%	9,901,862	21,504,523	1,148,418	(2,267,577)	-5.20%	1,466,809	347,650	21,852,173	2029
2029	7.00%	10,134,758	21,852,173	1,175,429	(2,288,930)	-5.10%	1,491,339	377,838	22,230,011	2030
2030	7.00%	10,366,492	22,230,011	1,202,306	(2,343,136)	-5.13%	1,516,847	376,017	22,606,027	2031
2031	7.00%	10,605,201	22,606,027	1,229,991	(2,518,666)	-5.70%	1,538,081	249,406	22,855,434	2032
2032	7.00%	10,701,911	22,855,434	1,241,208	(2,567,108)	-5.80%	1,554,259	228,358	23,083,792	2033
2033	7.00%	10,960,270	23,083,792	1,271,172	(2,566,887)	-5.61%	1,571,282	275,567	23,359,359	2034
2034	7.00%	11,229,260	23,359,359	1,302,370	(2,585,915)	-5.49%	1,590,991	307,446	23,666,805	2035
2035	7.00%	11,501,679	23,666,805	1,333,965	(2,780,614)	-6.11%	1,606,900	160,250	23,827,056	2036
2036	7.00%	11,670,873	23,827,056	1,353,588	(2,747,860)	-5.85%	1,619,920	225,648	24,052,703	2037
2037	7.00%	11,963,465	24,052,703	1,387,523	(2,768,249)	-5.74%	1,636,181	255,455	24,308,158	2038
2038	7.00%	12,254,677	24,308,158	1,421,297	(2,781,170)	-5.59%	1,654,781	294,909	24,603,067	2039
2039	7.00%	12,557,964	24,603,067	1,456,473	(2,987,206)	-6.22%	1,669,545	138,812	24,741,879	2040
2040	7.00%	12,788,498	24,741,879	1,483,210	(2,945,392)	-5.91%	1,681,621	219,439	24,961,318	2041
2041	7.00%	13,112,432	24,961,318	1,520,780	(2,941,723)	-5.69%	1,698,400	277,457	25,238,775	2042
2042	7.00%	13,442,873	25,238,775	1,559,104	(2,932,954)	-5.44%	1,719,443	345,594	25,584,369	2043
2043	7.00%	13,782,786	25,584,369	1,598,528	(3,170,438)	-6.14%	1,736,819	164,908	25,749,277	2044
2044	7.00%	14,075,431	25,749,277	1,632,468	(3,104,035)	-5.71%	1,751,816	280,249	26,029,526	2045
2045	7.00%	14,438,929	26,029,526	1,674,627	(3,106,159)	-5.50%	1,772,811	341,279	26,370,806	2046
2046	7.00%	14,807,982	26,370,806	1,717,430	(3,096,856)	-5.23%	1,798,493	419,066	26,789,872	2047
2047	7.00%	15,185,374	26,789,872	1,761,200	(3,330,821)	-5.86%	1,821,283	251,662	27,041,534	2048
2048	7.00%	15,544,229	27,041,534	1,802,820	(3,274,351)	-5.44%	1,842,275	370,744	27,412,278	2049
2049	7.00%	15,948,660	27,412,278	1,849,726	(3,290,599)	-5.26%	1,869,282	428,409	27,840,686	2050
2050	7.00%	16,357,514	27,840,686	1,897,144	(3,271,404)	-4.94%	1,901,562	527,303	28,367,989	2051
2051	7.00%	16,781,955	28,367,989	1,946,371	(3,552,421)	-5.66%	1,930,498	324,449	28,692,437	2052
2052	7.00%	17,201,748	28,692,437	1,995,059	(3,477,033)	-5.17%	1,957,479	475,504	29,167,942	2053
2053	7.00%	17,648,603	29,167,942	2,046,885	(3,497,361)	-4.97%	1,991,848	541,372	29,709,314	2054
2054	7.00%	18,107,383	29,709,314	2,100,094	(3,470,960)	-4.61%	2,032,483	661,617	30,370,931	2055





## SECTION XI – SENSITIVITY ANALYSIS

### ***SENSITIVITY ANALYSIS***

Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions. The primary areas of risk in this actuarial valuation are.

- Investment Risk – the potential that actual investment returns will be different than expected.
- Longevity and Other Demographic Risks – the potential that mortality or other demographic experience will be different than expected.
- Interest Rate Risk – to the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results.
- Contribution Risk – the potential that actual contributions are different than the fixed contribution rates.
- Liquidation Risk – the potential that the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds.





## SECTION XI – SENSITIVITY ANALYSIS

### Investment Risk

In this section of the report, we will demonstrate the variability in achieving funding goals based on sensitivity around the three key variables listed above. Earlier in this section, we reviewed the projections if the long-term investment return assumption was lowered to rates below 7.00% (6.50%). In this section, we keep the long-term investment return assumption at 7.00% but review the sensitivity of short-term investment returns as a single year event (and then 7.00% for all years thereafter) and simulate the next 10-year periods of return (and then 7.00% for all years thereafter).

#### Projected Funded Ratio in 2047

Single Year Event	2024 Valuation	2023 Valuation
• 1.00% for the next fiscal year	73.9%	64.3%
• 3.00% for the next fiscal year	78.2%	69.0%
• 5.00% for the next fiscal year	82.6%	73.7%
• <b>7.00% for the next fiscal year (Baseline)</b>	<b>86.9%</b>	<b>78.4%</b>
• 9.00% for the next fiscal year	91.2%	83.1%
• 11.00% for the next fiscal year	95.5%	87.8%
• 13.00% for the next fiscal year	99.9%	92.5%
• Simulate 2008 loss using -15% for the next fiscal year	39.4%	26.8%
Average Returns over next 10-Year Period (Simulated returns using mean and standard deviations from PERS' Investment Consultant's Capital Market Assumptions)*	2024 Valuation	2023 Valuation
• 6.00%	69.1%	59.7%
• 7.00%	87.0%	78.6%
• 8.00%	110.5%	104.0%

\*\* 6.00% Average Returns over the next 10-Year Period: 7.04%, 10.32%, 2.25%, 5.45%, 8.52%, 0.00%, 5.44%, 11.49%, -7.04%, 18.53%  
 7.00% Average Returns over the next 10-Year Period: 3.61%, 20.67%, -0.02%, 11.58%, -4.84%, 8.13%, 18.10%, 2.04%, 0.83%, 12.67%  
 8.00% Average Returns over the next 10 Year Period: 9.00%, 9.01%, 16.24%, 4.84%, 16.62%, 6.78%, -3.74%, 6.19%, 18.57%, -1.19%

As can be seen from the projected funded ratios on the table above, the sensitivity of short-term investment returns does have a significant impact to the funding of SLRP in the long-term, especially another repeat of the Great Recession of 2008. We believe it demonstrates the importance of these continued projection reports and the continued monitoring of this sensitivity analysis because short-term differences in investment returns can have a major impact on the projection of funded ratios.







## SECTION XI – SENSITIVITY ANALYSIS

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### *Demographic Risk*

While actual investment returns compared to that assumed is the most critical driver of funding, many other assumptions are used in the actuarial projections to review sensitivity, such as population growth and wage inflation. Variances in these other assumptions over the long-term may also have an impact on the funding of the Plan.

Since SLRP has a set number of active legislative members and should remain static over the projection period, we have not reviewed the sensitivity around this assumption.





## SECTION XI – SENSITIVITY ANALYSIS

### Assumption Risk

We also performed a sensitivity analysis for the wage inflation assumption. As a result of the experience study presented in April 2023, the Board kept the wage inflation assumption at 2.65%, which is 0.25% above the price inflation of 2.40%. Wage inflation is a major component of the underlying salary increase assumptions, as well as the amortization of the Unfunded Accrued Liability which is based on the level percent of payroll amortization methodology.

In the table below, the second scenario lowers the discount rate to 6.75% but does not change the price inflation or wage inflation. The third scenario lowers the price and wage inflation by 0.30% and lowers the discount rate to 6.75%.

#### Projected Funded Ratio in 2047

Scenario	Price Inflation	Discount Rate	Wage Inflation	2024 Valuation	2023 Valuation
<b>1 - Baseline</b>	2.40%	7.00%	2.65%	<b>86.9%</b>	<b>78.4%</b>
2	2.40%	6.75%	2.65%	77.2%	68.5%
3	2.10%	6.75%	2.35%	74.2%	64.4%





## SECTION XI – SENSITIVITY ANALYSIS

### Contribution Risk

To demonstrate the contribution risk of making the Fixed Contribution Rates (FCR) for SLRP, we have calculated the projected funded ratio if the FCRs were 1% higher or 1% lower than the current rates for all future years.

#### Projected Funded Ratio in 2047

Change in Fixed Contribution Rate (FCR)	2024 Valuation	2023 Valuation
• Baseline	86.9%	78.4%
• 1.00% increase in FCR	100.0%	92.5%
• 1.00% decrease in FCR	73.8%	64.2%

Over a long projection period, gains and losses due to population growth and wage inflation assumptions will be relatively concentrated around the expected value of these assumptions. So, the impact of the sensitivity around these baseline assumptions is small when compared to the investment return assumption.





## SECTION XI – SENSITIVITY ANALYSIS

### *Liquidation Risk*

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we must now include a low-default-risk obligation measure of the Fund's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of this plan.

This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2024 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a low-default-risk obligation measure liability of approximately \$31,809,000.

This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan.





## SECTION XII – PROJECTION SUMMARY

Utilizing the metrics based on the funding policy for SLRP and with a fixed contribution rate as a percentage of annual compensation of 8.40% of payroll, the projection results for 2024 for SLRP show that two of the three funding policy metrics are in the Yellow Status, therefore, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.

Metrics	2024 Baseline Projection	2024 Status
Funding Ratio in 2047	86.9%	Yellow
Cash Flow as a Percentage of Assets	(5.04)%	Green
ADC/FCR Ratio from 2023 Valuation	101.6%	Yellow
ADC/FCR Ratio from 2024 Valuation	101.5%	Yellow





## SCHEDULE A – DEVELOPMENT OF ASSETS

		(\$ thousands)					
Valuation Date June 30:		2023	2024	2025	2026	2027	2028
A.	Actuarial Value Beginning of Year	\$20,808	\$21,465				
B.	Market Value End of Year	20,830	21,868				
C.	Market Value Beginning of Year	20,139	20,830				
D.	Cash Flow						
D1.	Contributions	884	939				
D2.	Other Revenue	0	0				
D3.	Benefit Payments	(1,658)	(2,010)				
D4.	Refunds	0	0				
D5.	Administrative Expenses	(13)	(13)				
D6.	Net	(787)	(1,084)				
E.	Investment Income						
E1.	Market Total: B.-C.-D6.	1,478	2,122				
E2.	Assumed Rate	7.55%	7.00%				
E3.	Amount for Immediate Recognition	1,491	1,532				
E4.	Amount for Phased-In Recognition	( 13)	590				
F.	Phased-In Recognition of Investment Income						
F1.	Current Year: 0.20*E4.	(3)	118				
F2.	First Prior Year	(733)	(3)	118			
F3.	Second Prior Year	873	(733)	(3)	118		
F4.	Third Prior Year	(169)	873	(733)	(3)	118	
F5.	Fourth Prior Year	(15)	(174)	875	(733)	(1)	118
F6.	Total Recognized Investment Gain	(47)	81	257	(618)	117	118
G.	Actuarial Value End of Year: A. + D6. + E3. + F6.	\$21,465	\$21,994				
H.	Difference Between Market & Actuarial Values	\$( 635)	\$(126)	\$(383)	\$235	\$118	\$0

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.





## SCHEDULE A – DEVELOPMENT OF ASSETS

Asset Summary June 30, 2024 (\$ in Thousands)		
	Market Value	Actuarial Value
(1) Assets as of June 30, 2023	\$20,830	\$21,465
(2) Contributions and Misc. Revenue	939	939
(3) Investment Increment	2,122	1,613
(4) Benefit Payments	(2,010)	(2,010)
(5) Refunds	0	0
(6) Administrative Expenses	(13)	(13)
(7) Assets as of June 30, 2024 (1)+(2)+(3)+(4)+(5)+(6)	\$21,868	\$21,994
(8) Net Investment Return* [ 2 x (3) ] / [ (7) + (1) – (3) ]	10.46%	7.71%

\* Calculated assuming middle of year cash flow experience.





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation are based on the results of the experience investigation for the four-year period ending June 30, 2022, dated April 21, 2023, and adopted by the Board on August 22, 2023. The combined effect of the assumptions is expected to have no significant bias.

INTEREST RATE: 7.00% per annum, compounded annually (net of investment expenses only). The expected return on assets consists of 2.40% price inflation and 4.60% real rate of return.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

Age	Annual Rate of		
	Male	Female	Disability**
20	0.0483%	0.0126%	0.020%
25	0.0567	0.0189	0.025
30	0.0630	0.0259	0.035
35	0.0714	0.0350	0.055
40	0.0893	0.0483	0.085
45	0.1218	0.0665	0.115
50	0.1764	0.0917	0.150
55	0.2594	0.1274	0.175
60	0.3980	0.1757	0.200
65	0.6353	0.2429	0.000
70	1.1655	0.4739	0.000
75	2.1389	0.9247	0.000

\* Adjusted Base rates.

\*\* 93% are presumed to be non-duty related, and 7% are assumed to be duty related.

WITHDRAWAL AND VESTING: 15% in an election year, 2% in a non-election year.

SERVICE RETIREMENT: 30% in an election year, 3.5% in a non-election year. All members are assumed to retire no later than age 80.

It is assumed that a member will be granted 2.5 years of service credit for unused leave at termination of employment.

SALARY INCREASES: 2.65% per annum, for all ages.







## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

### DEATH AFTER RETIREMENT:

#### **Service Retirees\***

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubS.H-2010(B) Retiree	Male: 95% up to age 60, 110% for ages 61 to 75, and 101% for ages above 77 Female: 84% up to age 72, 100% for ages above 76	MP-2020

#### **Contingent Annuitants\***

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubS.H-2010(B) Contingent Annuitant	Male: 97% for all ages Female: 110% for all ages	MP-2020

#### **Disabled Retirees\***

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubG.H-2010 Disabled	Male: 134% for all ages Female: 121% for all ages	MP-2020

\* Please note that none of the recommended tables have any setbacks or setforwards.

Representative values of the assumed rates of death after retirement are as follows:

Age	Rates of Death After Retirement*					
	Service Retirees		Contingent Annuitants		Disabled Retirees	
	Male	Female	Male	Female	Male	Female
45	0.2983%	0.0983%	0.7692%	0.5104%	1.4660%	1.1919%
50	0.4190%	0.1638%	0.8837%	0.6556%	2.2780%	1.7956%
55	0.5197%	0.2738%	1.0156%	0.7843%	2.9855%	2.1078%
60	0.7771%	0.4578%	1.2397%	1.0131%	3.6475%	2.4684%
65	1.3211%	0.7652%	1.6286%	1.4157%	4.5426%	2.9730%
70	2.1758%	1.2785%	2.4153%	1.9998%	5.8129%	3.8127%
75	3.8566%	2.3659%	3.7209%	3.0052%	7.6661%	5.2683%
80	6.2640%	4.2530%	5.7734%	4.7289%	10.8125%	7.7779%
85	11.0605%	7.3240%	9.2228%	7.8562%	15.7785%	11.9947%
90	17.6902%	12.6470%	14.6577%	13.4530%	22.7224%	17.5353%

\* Adjusted Base Rates





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

PAYROLL GROWTH: 2.65% per annum, compounded annually.

ADMINISTRATIVE EXPENSES: 0.15% of payroll.

TIMING OF DECREMENTS AND PAY INCREASES: Middle of Year.

ASSUMED INTEREST RATE ON EMPLOYEE CONTRIBUTIONS: 2.00%

MARRIAGE ASSUMPTION: 85% married with the husband three years older than his wife.

MAXIMUM COVERED EARNINGS ASSUMPTION GROWTH: 2.65%

MODIFIED CASH REFUND: Benefits were valued with a six-year certain period for retirees and a five year certain period for active members to estimate the value of the modified cash refund feature.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

AMORTIZATION METHOD FOR ACTUARIALLY DETERMINED CONTRIBUTION (ADC): Level Percentage of Payroll Method using closed amortization periods as follows:

- a. Existing UAAL on June 30, 2023 – 25 years.
- b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.





## SCHEDULE B – ACTUARIAL ASSUMPTIONS AND METHODS

**VALUATION METHOD:** The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability, or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of SLRP are determined following a level funding approach and consist of a normal contribution and an accrued liability contribution.

Under the entry age normal cost method, the actuarial present value of each member's projected benefits is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses. The accrued liability contribution amortizes the balance of the unfunded actuarial accrued liability over a period of years from the valuation date.





# SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The following summary presents the main benefit and contribution provisions of the Plan in effect June 30, 2024 as interpreted in preparing the actuarial valuation.

## DEFINITIONS

<b>Average Compensation</b>	<p>Average annual covered earnings of an employee during the four highest years of service. To determine the four highest years, PERS considers these scenarios:</p> <ul style="list-style-type: none"><li>• Four highest fiscal years of earned compensation;</li><li>• Four highest calendar years of earned compensation;</li><li>• Combination of four highest fiscal and calendar years of earned compensation that do not overlap; or</li><li>• Final 48 months of earned compensation prior to termination of employment.</li></ul>
<b>Covered Earnings</b>	<p>Gross salary not in excess of the maximum amount on which contributions were required.</p>
<b>Fiscal Year</b>	<p>Year commencing on July 1 and ending June 30.</p>
<b>Eligibility Service</b>	<p>Service while a contributing member of PERS plus additional service as described below. (OLD: Eligibility service” is all service in PERS, including that credited for SLRP service.)</p>
<b>Credited Service</b>	<p>Service while a contributing member of SLRP plus additional service as described below. (OLD: “Creditable service” includes only SLRP service.)</p>
<b>Unused Sick and Vacation Leave</b>	<p>Service credit is provided at no charge to members for unused sick and vacation time that has accrued at the time of retirement. A payment of up to 240 hours of leave may be used the Average Compensation definition.</p>
<b>Additional Service</b>	<p>Additional service credit may be granted for service prior to July 1, 1989, including active duty military service.</p>
<b>Attribution</b>	<p>Attribution period for the normal cost is based on entry into PERS even for members who first participated in SLRP at a later age than PERS.</p>





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The maximum covered earnings for employers and employees over the last ten years are as follows:

### EMPLOYER AND EMPLOYEE RATES OF CONTRIBUTION AND MAXIMUM COVERED EARNINGS

Fiscal Date From	Fiscal Date To	Employer Rate	Employee Rate	Maximum Covered Earnings
7/1/2014	6/30/2015	7.40%	3.00%	\$260,000
7/1/2015	6/30/2017	7.40	3.00	\$265,000
7/1/2017	6/30/2018	7.40	3.00	\$270,000
7/1/2018	6/30/2019	7.40	3.00	\$275,000
7/1/2019	6/30/2020	7.40	3.00	\$280,000
7/1/2020	6/30/2021	7.40	3.00	\$285,000
7/1/2021	6/30/2022	7.40	3.00	\$290,000
7/1/2022	6/30/2023	7.40	3.00	\$305,000
7/1/2023	6/30/2024	7.40	3.00	\$330,000
7/1/2024	6/30/2025	8.40	3.00	\$345,000





# SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

## BENEFITS

### Superannuation Retirement

#### Condition for Retirement

- (a) A retirement allowance is paid upon the request of any member who retires and has attained age 60 and completed at least eight years\* of membership service under PERS. A retirement allowance may also be paid upon the completion of at least 25 years of creditable service under PERS for members hired prior to July 1, 2011, or upon the completion of 30 years of creditable service for members hired on or after July 1, 2011.
- (b) Any member who withdraws from service prior to his or her attainment of age 60 and who has completed at least eight years\* of membership service under PERS is entitled to receive, in lieu of a refund of his or her accumulated contributions, a retirement allowance commencing at age 60.

#### Amount of Allowance

The annual retirement allowance payable to a member who retires under condition (a) above is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his or her retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to 1% of his or her average compensation for each of the first 25 years of creditable service plus 1.25% for each year of creditable service over 25 years.

The minimum allowance is \$60 per year of creditable service.





# SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

## Disability Retirement

### Condition for Retirement

A retirement allowance is paid to a member who is totally and permanently disabled, as determined by the Board of Trustees, and has accumulated eight or more years\* of membership service under PERS.

\* four years for those who entered PERS before July 1, 2007.

### Amount of Allowance

For those who were active members prior to July 1, 1992, and did not elect the benefit structure outlined below, the annual disability retirement allowance payable is equal to a superannuation retirement allowance if the member has attained age 60, otherwise it is equal to a superannuation retirement allowance calculated as follows:

1. A member's annuity equal to the actuarial equivalent of his or her accumulated contributions at the time of retirement, plus
2. An employer's annuity equal to the amount that would have been payable had the member continued in service to age 60.

For those who become active members after June 30, 1992, and for those who were active members prior to July 1, 1992, who so elected, the following benefits are payable:

1. A temporary allowance equal to the greater of (a) 40% of average compensation plus 10% for each dependent child up to a maximum of 2, or (b) the member's accrued allowance. This temporary allowance is paid for a period of time based on the member's age at disability, as follows:





SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

<u>Age at Disability</u>	<u>Duration</u>
60 and earlier	to age 65
61	to age 66
62	to age 66
63	to age 67
64	to age 67
65	to age 68
66	to age 68
67	to age 69
68	to age 70
69 and later	one year

For those hired prior to July 1, 2011, the minimum allowance is \$60 per year of service credit.

2. A deferred allowance commencing when the temporary allowance ceases equal to the greater of (a) the allowance the member would have received based on service to the termination age of the temporary allowance, but not more than 20% of average compensation, or (b) the member’s accrued allowance.

For those hired prior to July 1, 2011, the minimum allowance is \$60 per year of service credit.

Effective July 1, 2004, a temporary benefit can be paid out of a member’s accumulated contribution balance while the member is awaiting a determination for eligibility for disability benefits. Future disability payments, if any, would be offset by advanced payments made from the member’s accumulated contributions.







# SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

## Accidental Disability Retirement

Condition for Retirement	A retirement allowance is paid to a member who is totally and permanently disabled in the line of performance of duty.
Amount of Allowance	The annual accidental disability retirement allowance is equal to the allowance payable on disability retirement but not less than 25% of average compensation. There is no minimum benefit.

## Accidental Death Benefit

Condition for Benefit	A retirement allowance is paid to a spouse and/or dependent children upon the death of an active member in the line of performance of duty.
Amount of Allowance	The annual retirement allowance is equal to 25% of average compensation payable to the spouse and 12-1/2% of average compensation payable to one dependent child or 25% to two or more children until age 19 (23 if a full time student). There is no minimum benefit.

## Ordinary Death Benefit

Condition for Benefit	Upon the death of a member who has completed at least eight years* of membership service, a benefit is payable, in lieu of a refund of the member's accumulated contributions, to his or her spouse, if said spouse has been married to the member for not less than one year.
Amount of Allowance	<p>The annual retirement allowance payable to the lawful spouse of a vested member who dies is equal to the greater of (i) the allowance that would have been payable had the member retired and elected Option 2, reduced by an actuarially determined factor based on the number of years the member lacked in qualifying for unreduced benefits, or (ii) a lifetime benefit equal to 20% of the deceased</p> <p>* four years for those who entered the system before July 1, 2007.</p>





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

member's average compensation, but not less than \$25 per month.

In addition, a benefit is payable to dependent children until age 19 (23 if a full time student). The benefit is equal to the greater of 5% of average compensation or \$25 per month for each dependent child up to 3.

### Return of Contributions

Upon the withdrawal of a member without a retirement benefit, his or her contributions are returned to him or her, together with accumulated regular interest thereon.

Upon the death of a member before retirement, his or her contributions, together with the full accumulated regular interest thereon, are paid to his or her designated beneficiary, if any, otherwise, to his or her estate provided no other survivor benefits are payable.

Effective July 1, 2016, the interest rate on employee contributions shall be calculated based on the money market rate as published by the Wall Street Journal on December 31 of each preceding year with a minimum rate of one percent and a maximum rate of five percent.

### Normal Form of Benefit

The normal form of benefit is an allowance payable during the life of the member with the provision that upon his or her death the excess of his or her total contributions at the time of retirement over the total retirement annuity paid to him or her will be paid to his or her designated beneficiary.

### Optional Benefits

A member upon retirement may elect to receive his or her allowance in one of the following forms which are computed to be actuarially equivalent to the applicable retirement allowance.

Option 1. Reduced allowance with the provision that if the pensioner dies before he receives the value of the member's annuity as it was at the time of retirement, the balance shall be paid to his or her beneficiary.





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

Option 2. Upon his or her death, his or her reduced retirement allowance shall be continued throughout the life of, and paid to, his or her beneficiary.

Option 3. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary and the other 50% of his or her reduced retirement allowance to some other designated beneficiary.

Option 4. Upon his or her death, 75% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4A. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4B. A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner or his or her beneficiary for a specified number of years certain.

Option 4C. A member may elect any option with the added provision that the member shall receive, so far as possible, the same total amount annually (considering both SLRP and Social Security benefits) before and after the earliest age at which the member becomes eligible for a Social Security benefit. This option was only available to those who retired prior to July 1, 2004.

A member who elects Option 2, Option 4 or Option 4A at retirement may revert to the normal form of benefit if the designated beneficiary predeceases the retired member or if the member divorces the designated beneficiary.

A member who elects the normal form of benefit or Option 1 at retirement may select Option 2, Option 4





## SCHEDULE C – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

or Option 4A to provide beneficiary protection to a new spouse if married at retirement.

A member who has at least 28 years of creditable service\* under PERS can select a partial lump-sum option at retirement. Under this option, the retiree has the option of taking a partial lump-sum distribution equal to either 12, 24, or 36 times the base maximum monthly benefit. With each lump-sum amount, the base maximum monthly benefit will be actuarially reduced. A member selecting the partial lump-sum option may also select any of the regular options except Option 1, the prorated single-life annuity, and Option 4-C, the Social Security leveling provision. The benefit is then calculated using the new reduced maximum benefit as a starting point in applying the appropriate option factors for the reduction.

\*or at least age 63 with four years of membership service for those who entered PERS before July 1, 2007.

### Post-Retirement Adjustments In Allowances

The allowances of retired members are adjusted annually by an amount equal to (a) 3% of the annual retirement allowance for each full fiscal year of retirement prior to the year in which the member reaches age 55, plus (b) 3% compounded for each year thereafter beginning with the fiscal year in which the member turns age 55\*.

\*Age 60 for members hired on or after July 1, 2011.

A prorated portion of the annual adjustment will be paid to the member, beneficiary, or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but whose benefits are terminated between July 1 and December 1.





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### RECONCILIATION OF DATA RECEIVED FROM PERS

Reconciliation of Data received from PERS	Active File			Pensioner File			Total
	Active	Inactive	Deferred Vested	Retirees	Disableds	Survivors	
From PERS	198	30	35	196	1	58	518
Return to Active							
Refunded	(2)						(2)
Deceased				(5)		(2)	(7)
Deceased with Beneficiary						1	1
Certain Period End						(2)	(2)
Inactive							
Deferred Vested							
Duplicate*							
Retired	(21)						(21)
For Valuation	175	30	35	191	1	55	487

\*Also included in Pensioner File

### STATUS RECONCILIATION FROM 2023 TO 2024

	Actives	Retirees	Disableds	Survivors	Deferred Vested	Inactive	Total
As of June 30, 2023	172	176	1	51	33	27	460
Retirement	(16)	20			(3)	(1)	
Disabled							
Death with Survivor	(1)	(5)		8			2
Terminated Vested	(8)				8		
Terminated Non-Vested	(3)				(3)	6	
Rehired							
Refunded						(2)	(2)
Death No Survivor				(2)			(2)
Benefit Ended				(2)			(2)
Removed/Cleanup							
New	31						31
As of June 30, 2024	175	191	1	55	35	30	487





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Retirants & Beneficiaries as of June 30, 2024 Tabulated by Year of Retirement

Valuation Year of Retirement Ending June 30	No.	Total Annual Benefits, excluding COLA	COLA	Total Annual Benefits	Average Monthly Total Benefit
2024	21	\$149,140	\$0	\$149,140	\$592
2023	6	41,080	263	41,343	574
2022	5	22,930	6,674	29,604	493
2021	4	18,153	908	19,061	397
2020	26	210,542	24,406	234,948	753
2019	7	41,467	5,450	46,917	559
2018	6	30,647	5,427	36,074	501
2017	6	32,976	6,849	39,825	553
2016	25	151,912	34,133	186,045	620
2015	5	35,146	9,216	44,362	739
2014	5	21,980	7,193	29,173	486
2013	15	59,095	20,227	79,322	441
2012	27	169,351	65,291	234,642	724
2011	3	5,193	2,324	7,517	209
2010	4	18,656	8,669	27,325	569
2009	5	25,467	13,055	38,522	642
2008	13	57,861	31,672	89,533	574
2007	1	4,417	2,671	7,088	591
2006	6	21,944	14,605	36,549	508
2005	5	15,970	11,056	27,026	450
2004	11	54,731	41,213	95,944	727
2003	0	0	0	0	0
2002	3	9,092	7,944	17,036	473
2001	7	22,011	20,801	42,812	510
2000	9	30,034	25,872	55,906	518
1999	3	13,512	13,519	27,031	751
1998	1	1,097	1,200	2,297	191
1997	3	9,560	10,351	19,911	553
1996	2	4,441	5,424	9,865	411
1995	1	1,058	1,363	2,421	202
1994	0	0	0	0	0
1993	4	12,530	16,501	29,031	605
1992	7	27,202	39,836	67,038	798
1991	0	0	0	0	0
1990	1	2,203	3,640	5,843	487
TOTAL	247	\$1,321,398	\$457,753	\$1,779,151	\$600





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Schedule of Retired Members by Type of Retirement

#### Benefits Payable June 30, 2024

Amount of Original Monthly Benefit	Number of Rets.	Ret Type 1*	Ret Type 2*	Ret Type 3*
\$1 – \$100	13	10		3
101 – 200	49	34		15
201 – 300	34	30		4
301 – 400	41	31		10
401 – 500	24	17	1	6
501 – 600	21	11		10
601 – 700	19	17		2
701 – 800	15	12		3
801 – 900	8	7		1
901 – 1,000	9	9		
Over 1,000	14	13		1
Totals	247	191	1	55

\*Type of Retirement

- 1 – Retirement for Age & Service
- 2 – Disability Retirement
- 3 – Survivor Payment





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Schedule of Retired Members by Type of Option Benefits Payable June 30, 2024

Amount of Original Monthly Benefit	Number of Rets.	Life	Option 1	Option 2	Option 3	Option 4	Option 4A	Option 4B	Option 4C*	PLSO* 1 Year	PLSO* 2 Years	PLSO* 3 Years
\$1 – \$100	13	7		4				1	1			
101 – 200	49	22	1	18	5	2		1		3		6
201 – 300	34	17	1	11	1	1	1	2		1		2
301 – 400	41	24		12			1	4		2		6
401 – 500	24	11	1	8	1			3			2	4
501 – 600	21	6		6	3		2	4			1	10
601 – 700	19	10		8			1				2	3
701 – 800	15	7		7		1				1	1	3
801 – 900	8	4		2		1	1					3
901 – 1,000	9	2	1	3		1		2			1	2
Over 1,000	14	8		4		1	1			2	1	3
Totals	247	118	4	83	10	7	7	17	1	9	8	42

#### Option Selected

- Life - Return of Contributions
- Opt. 1 - Return of Value of Member's Annuity
- Opt. 2 - 100% Survivorship
- Opt. 3 - 50%/50% Dual Survivorship
- Opt. 4 - 75% Survivorship
- Opt. 4A - 50% Survivorship
- Opt. 4B - Years Certain & Life
- Opt. 4C - Social Security Leveling\*
- Opt. 5 - Pop-Up
- PLSO - Partial Lump Sum\* (Reflects reduced monthly benefit)

\*Included in other options







## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Retirant and Beneficiary Information June 30, 2024 Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20 – 24								
25 – 29					1	\$1,751	1	\$1,751
30 – 34								
35 – 39					2	\$9,404	2	\$9,404
40 – 44					1	\$7,845	1	\$7,845
45 – 49	1	\$2,074			1	\$1,386	2	\$3,460
50 – 54					2	\$5,498	2	\$5,498
55 – 59	6	\$32,312			6	\$35,626	12	\$67,938
60 – 64	20	\$124,966			1	\$8,854	21	\$133,820
65 – 69	35	\$257,130	1	\$9,369	4	\$31,292	40	\$297,791
70 – 74	41	\$290,537			12	\$77,093	53	\$367,630
75 – 79	43	\$324,078			4	\$36,498	47	\$360,576
80 – 84	23	\$182,150			11	\$89,611	34	\$271,761
85 – 89	16	\$131,952			9	\$51,278	25	\$183,230
90 – 94	5	\$33,352			1	\$9,274	6	\$42,626
95	1	\$25,821					1	\$25,821
96								
97								
98								
99								
100 & Over								
Totals	191	\$1,404,372	1	\$9,369	55	\$365,410	247	\$1,779,151

Average Age: 73.7 years  
Average Age at Retirement: 61.4 years





## SCHEDULE D – DETAILED TABULATIONS OF THE DATA

### Total Active Member Data as of June 30, 2024 Tabulated by Attained Ages and Years of Service

Attained Age	Completed Years of Service									Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Over	No.	Payroll
Under 25											\$ -
25 to 29	2									2	106,748
30 to 34		2	2	1						5	248,303
35 to 39	9	2	2							13	649,249
40 to 44	3	5	2	2						12	601,010
45 to 49	6	9	8	3	1	1				28	1,430,398
50 to 54	5	2	7	9	1	2				26	1,401,943
55 to 59	2	5	7	7	2	2				25	1,291,386
60 to 64	2	7	5	6	2	2				24	1,230,089
65 to 69	1	4	2	1	2	2		3		15	776,167
70 & Over	1	2	2	6	5	1	1	4	3	25	1,355,484
Total Count	31	38	37	35	13	10	1	7	3	175	\$ 9,090,777

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 55.7 years  
Benefit Service: 9.8 years  
Eligibility Service: 14.5 years  
Annual Pay: \$51,947





## SCHEDULE E – ANALYSIS OF FINANCIAL EXPERIENCE

### Gains & Losses in Accrued Liabilities Resulting from Difference Between Assumed Experience & Actual Experience (\$ Thousands)

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2024	\$ Gain (or Loss) For Year Ending 6/30/2023
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 277.4	\$ 19.8
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	7.6	11.1
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	8.0	3.7
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	26.0	29.2
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(278.0)	(169.5)
<b>New Members.</b> Additional unfunded actuarial accrued liability will produce a loss.	(303.9)	0
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	33.0	(97.0)
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	(77.1)	21.5
<b>Other.</b> Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	<u>(74.0)</u>	<u>(46.2)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ (381.0)	\$ (227.4)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, software changes, assumption changes, or method changes.	<u>0.0</u>	<u>(1,573.3)</u>
<b>Composite Gain (or Loss) During Year</b>	<u>\$ (381.0)</u>	<u>\$ (1,800.7)</u>





## SCHEDULE F – FUNDING POLICY OF SLRP

The purpose of the funding policy is to state the overall funding goals and objectives for the Supplemental Legislative Retirement Plan of Mississippi (SLRP), and to document both the metrics that will be used to measure progress toward achieving those goals, and the methods and assumptions employed to develop the metrics. The employer contribution rate for SLRP will be set based on the metrics, assumptions and methods outlined in Section II and III of this policy.

### I. Funding Goals and Objectives

The objective in requiring employer and member contributions to SLRP is to accumulate sufficient assets during a member's employment to fully finance the benefits the member will receive in retirement. In meeting this objective, SLRP will strive to meet the following goals:

- Preservation of the defined benefit structure for providing lifetime benefits to the SLRP membership,
- Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
- Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
- Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of this policy using a “Signal Light” approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate, and
- Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution.

### II. Metrics

To track progress in achieving the outlined funding goals and objectives and to assist the Board in making a determination whether an increase or decrease in the employer contribution rate for SLRP should be considered, certain metrics will be measured annually in conjunction with information provided in the actuarial valuation and projection report. As part of the annual valuation and projection reports, each metric will be calculated and assigned a “Signal Light” with the following definitions:

Status	Definition
Green	Plan passes metric and SLRP funding goals, and objectives are achieved
Yellow	Plan passes metric but a warning is issued that negative experience may lead to failing status
Red	Plan fails metric and SLRP must consider contribution increases





## SCHEDULE F – FUNDING POLICY OF SLRP

If any one of the metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three metrics back into the Green Signal Light status. The employer contribution rate increase would be effective beginning July 1<sup>st</sup>, 18 months following the completion of the projection report (e.g., if the projection report in 2024 deems an increase to be considered, then it would be effective for July 1, 2026).

The following metrics will be measured:

- **Funded Ratio** – Funded Ratio is defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100 percent funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047

- **Cash flow as a percentage of assets** – Cash flow as a percentage of assets is defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period





## SCHEDULE F – FUNDING POLICY OF SLRP

- **Actuarially Determined Contribution (ADC)** – ADC is defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of this funding policy:
  1. Actuarial Cost Method
  2. Asset Smoothing Method
  3. Amortization Method

The calculation of the ADC will be determined during the actuarial valuation and not during the projection report. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by this Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate at valuation date
Yellow	ADC ratio between 100% and 110% of fixed contribution rate at valuation date
Red	ADC ratio above 110% of fixed contribution rate at valuation date

If all of the metrics are in the Green Signal Light status in conjunction with the annual valuation report and the projection report and the following additional criteria is met for two consecutive valuation and projection cycles, the actuary may recommend to the Board an employer contribution rate decrease to consider. The additional criteria is based on the actuary's long-term investment return assumption recommended by the actuary in the most recent experience study and is as follows:

- Funded Ratio in 2047 is above 110%,
- Cash Flow as a percentage of assets is above negative 3.5% during the projection period, and
- ADC Ratio is below 90% for all years of the projection period.

### III. Assumptions and Methods

Each year, the actuary will perform an actuarial valuation and projection report for funding purposes. During the process, the actuary shall calculate all the metrics listed in Section II of this funding policy and SLRP's Signal Light status for each metric. The following three major components of a funding valuation will be used:

- **Actuarial Cost Method** – This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with projected benefits. The Entry Age Normal Cost Method





## SCHEDULE F – FUNDING POLICY OF SLRP

(EAN) is to be used for determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the Actuarial Determined Contribution (ADC).

- **Asset Valuation Method** – This component dictates the method by which the asset value, used in the determination of the Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio, is determined. The asset valuation method to be used shall be a five-year smoothed market value of assets. The difference between the actual market value investment returns and the expected market investment returns is recognized equally over a five-year period.
- **Amortization Method** – This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the accrued liability and the actuarial value of assets is reduced. For purposes of calculating the ADC metric, the following amortization method assumptions are used:
  - I. Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.
  - II. The amortization payment will be determined on a level percentage of pay basis.
  - III. The length of the amortization periods will be as follows:
    - a. Existing UAAL on June 30, 2023 – 25 years.
    - b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.
  - IV. If any future annual actuarial valuation indicates that SLRP has a negative UAAL, the ADC shall be set equal to the Normal Cost.
- **Actuarial Assumptions** – The actuarial assumptions are used to develop the annual and projected actuarial metrics, as well as the ADC rates. The actuarial assumptions are derived and proposed by the actuary and adopted by the PERS' Board in conformity with the *Actuarial Standards of Practice*. The actuarial assumptions for this funding policy were developed using the experience for the four-year period ending June 30, 2022 (State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2022). The long-term investment return assumption adopted by the PERS' Board in conjunction with the experience investigation is 7.00 percent.

### IV. Governance Policy/Process

Below is a list of specific actuarial and funding related studies, the frequency at which they should be commissioned by the Board and additional responsibilities related to each:

- **Actuarial Valuation (performed annually)** – The Board is responsible for the review of SLRP's annual actuarial valuation report, which provides the annual funded ratio and the calculation of the ADC.





## SCHEDULE F – FUNDING POLICY OF SLRP

- **Projection Report (performed annually)** – The Board is responsible for the review of SLRP's 30-year projection report, which will include the actuarial metrics and Signal Light status for each metric over a 30-year period.
- **Experience Analysis (performed every two years on a rolling four-year)** – The Board is responsible for ensuring that an experience analysis is performed as prescribed, review of the results of the study, and approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plan.
- **Actuarial Audit (performed at least every five years)** – The Board is responsible for the review of an audit report performed by a new actuarial firm to provide a critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.
- **Funding Policy Review (performed at least annually)** – The Board is responsible for the periodic review of this policy, but at least annually following the Projection Report and biennially following the Experience Analysis.

### V. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Actuarial Determined Contribution (ADC):** The potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. The ADC may or may not be the amount actually paid by the plan sponsor or other contributing entity.
- **Asset Values:**
  - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
  - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.







## SCHEDULE F – FUNDING POLICY OF SLRP

- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
  - **Actuarial Value Funded Ratio:** is the ratio of the AVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. SLRP's annual valuation date is June 30.



# Mississippi Municipal Retirement Systems

## Actuarial Valuation Report

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Prepared as of June 30, 2024

December 7, 2024

Board of Trustees  
Mississippi Municipal Retirement Systems  
429 Mississippi Street  
Jackson, MS 39201-1005

Ladies and Gentlemen:

Presented in this report are the results of the annual actuarial valuation covering the participation of 17 municipalities in the Mississippi Municipal Retirement Systems (MRS). MRS is a closed, defined benefit pension plan that was closed to new members beginning July 1, 1987. The purpose of the valuation is to measure the Systems' funding progress and to certify the employer contribution rates (millage rates) necessary for the period beginning October 1, 2025. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2024.

The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

**Your attention is directed particularly to the presentation of certified millage rates on page 5 and the comments on page 7.** The calculations of these millage rates are based on the funding policy which generates an ultimate asset reserve level equal to projected benefit payments.

Since the previous valuation, there have been no changes to assumptions but there was a change made to the benefit provisions. The City of Tupelo granted a 2% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2023.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.



In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

This actuarial valuation was performed to determine the adequacy of statutory contributions to fund the plan. The asset values used to determine unfunded liabilities and funded ratios are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts and funded ratios using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the System.

Respectfully submitted,

Edward J. Koebel, EA, FCA, MAAA  
Chief Executive Officer

Ben Mobley, ASA, FCA, MAAA  
Consulting Actuary



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## SECTION I – SUMMARY OF PRINCIPAL RESULTS



1. This report, prepared as of June 30, 2024, presents the results of the annual actuarial valuation of the 17 Systems. For convenience of reference, the principal aggregate results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation reflects any amendments to the Systems effective through July 1, 2024. Please note that the Plan has only retired members remaining.

VALUATION DATE	June 30, 2024	June 30, 2023
Retirees		
Number	1,337	1,391
Annual allowances	\$ 28,680,604	\$ 29,355,805
Accrued Liability	\$ 252,227,061	\$ 264,337,047
Assets		
Market related actuarial value	\$ 123,152,648	\$ 129,391,882
Market value	\$ 121,808,924	\$ 124,878,975
Unfunded Accrued Liability	\$ 129,074,413	\$ 134,945,165
Aggregate Funded Ratio	48.83%	48.95%

2. Rates of contribution payable by employers are given in Section III and comments on the valuation results are given in Section IV.



## SECTION I – SUMMARY OF PRINCIPAL RESULTS



3. The current funding policy was adopted by the Board in February 2011. In this funding policy, an employer contribution rate, expressed as a millage rate tax applied to assessed property values, is established for each municipality that will generate an ultimate asset reserve level equal to a reasonable percentage (initially 100% - 150%) of the next year's projected benefit payment. At that point, employer contributions are set equal to the fiscal year's projected benefit payments (basically on a pay-as-you-go basis) and adjusted as necessary to maintain the assets at the established reserve level. This calculation is performed using projected cash flow analysis using the current market value of assets as of the valuation date, a 5.50% assumption on investment earnings and an assumption that assessed property values will remain level over time. The 5.50% assumption is 1.50% less than the assumption used by the Public Employees Retirement System of Mississippi (PERS). As MRS is closed to new members, we are assuming a more conservative assumption even though assets are commingled with PERS' assets. Schedule H of this report shows the projected cash flow of each municipality, including the certified millage rates, based on the funding policy.
4. Schedule A of this report presents the development of the actuarial value of assets. The estimated investment return for the plan year ending June 30, 2024 on a market value of assets basis was 9.96% and on an actuarial value of assets basis was 6.99%. These can be compared to the assumed rate of return for the same period of 7.00%. The market value of assets basis return may be slightly different than what PERS reports as this estimated return is assuming cash flow as of the middle of the year.
5. Schedule B details the actuarial assumptions and methods employed. Since the previous valuation, there have been no assumption changes.
6. Schedule C details the summary of benefit and contribution provisions of the Plan. Since the previous valuation, the following change was made to the benefit provisions:
  - The City of Tupelo granted a 2% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2023.
7. The table on the following page provides a ten-year history of some pertinent figures.



## SECTION I – SUMMARY OF PRINCIPAL RESULTS



### Mississippi Municipal Retirement Systems Comparative Schedule

Valuation Date June 30	Active Members				Retired Lives			Valuation Results (\$ thousands)		
	Number	Payroll (\$ in thousands)	Average Salary	% increase from previous year	Number	Annual Benefits (\$ in thousands)	Benefits as % of Payroll	Accrued Liability	Valuation Assets	Unfunded Accrued Liability
2015	11	\$579	\$52,661	1.4%	1,849	\$34,478.4	5,954.8%	\$341,525	\$162,616	\$178,909
2016	8	419	52,375	(0.5)	1,798	34,088.4	8,135.7	330,663	159,160	171,503
2017	6	321	53,541	2.2	1,754	33,751.5	10,514.5	321,747	157,674	164,073
2018	4	200	49,936	(6.7)	1,694	32,997.7	16,498.9	307,456	154,749	152,707
2019	2	95	47,436	(5.0)	1,634	32,423.3	34,129.8	296,006	147,671	148,335
2020	0	0	0	N/A	1,585	31,819.4	N/A	286,436	140,731	145,705
2021	0	0	0	N/A	1,510	30,845.5	N/A	274,426	140,258	134,168
2022	0	0	0	N/A	1,444	29,977.6	N/A	265,490	136,246	129,244
2023	0	0	0	N/A	1,391	29,355.8	N/A	264,337	129,392	134,945
2024	0	0	0	N/A	1,337	28,680.6	N/A	252,227	123,153	129,074





## SECTION II – MEMBERSHIP DATA



Data regarding the membership of the Systems for use as a basis for the valuation were furnished by the PERS office. There are no more remaining active members in the closed System. However, there is still a total of 1,337 retirees, disability retirees and survivors collecting benefits from the System as of the valuation date. The following table summarizes the retirement membership of the system as of June 30, 2024 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

### Retired Lives

Employers	Retirement	Disability	Survivor	Total	Annual Benefit
Biloxi	31	4	32	67	\$1,919,320
Clarksdale	22	1	19	42	545,924
Clinton	26	0	5	31	907,260
Columbus	31	2	28	61	1,017,500
Greenville	28	0	27	55	787,137
Greenwood	20	0	18	38	565,827
Gulfport	36	5	27	68	1,631,258
Hattiesburg	81	4	42	127	3,149,173
Jackson	231	3	211	445	9,865,804
Laurel	32	1	26	59	798,837
McComb	8	0	6	14	220,762
Meridian	71	1	47	119	2,028,970
Natchez	19	2	12	33	544,354
Pascagoula	26	2	20	48	1,085,849
Tupelo	39	0	28	67	1,449,888
Vicksburg	21	2	32	55	2,015,834
Yazoo City	6	0	2	8	146,907
Total in MRS	728	27	582	1,337	\$28,680,604



## SECTION III – COMPUTED EMPLOYER CONTRIBUTION RATE



### Mississippi Municipal Retirement Systems Computed Employer Contribution Rates<sup>1</sup> As of June 30, 2024 for the 2026 Fiscal Year End

Municipality	Certified Rate for Fiscal Year Ending 9/30/2025	Current Millage Rate for Fiscal Year Ending 9/30/2025	Calculated Rate for Fiscal Year Ending 9/30/2026	Certified Rate <sup>2</sup> for Fiscal Year Ending 9/30/2026
Biloxi	1.65	1.65	1.56	1.56
Clarksdale	4.72	4.72	4.93	4.93
Clinton	0.81	0.81	0.76	0.76
Columbus	3.69	3.70	3.32	3.32
Greenville	2.24	2.24	2.01	2.01
Greenwood	2.33	2.76	2.28	2.28
Gulfport	0.81	0.91	0.76	0.76
Hattiesburg	2.63	2.63	2.19	2.19
Jackson	3.29	3.29	3.07	3.07
Laurel	1.29	2.60	0.74	0.74
McComb	1.67	1.67	1.28	1.28
Meridian	2.20	2.20	2.01	2.01
Natchez	1.25	1.25	1.17	1.17
Pascagoula	1.22	1.22	0.91	0.91
Tupelo	1.39	1.61	1.27	1.27
Vicksburg	2.73	2.73	1.70	1.70
Yazoo City	2.33	3.03	2.38	2.38

<sup>1</sup> Millage rates applied to assessed property

<sup>2</sup> Calculated using cash flow projections and 5.50% investment return assumption (see Schedule H)

The Systems are funded through taxes levied on assessed properties located in the Municipalities.



## SECTION III – COMPUTED EMPLOYER CONTRIBUTION RATE



Since the millage rates are developed assuming 0% annual growth in assessed property values in the future, the following table provides the recent history of assessed values as a guide to the appropriateness of that assumption.

### Mississippi Municipal Retirement Systems Total Assessed Property Values Last Five Fiscal Years

Municipality	2019	2020	2021	2022	2023	Average % Increase
Biloxi	\$585,246,074	\$593,305,051	\$639,344,542	\$662,733,865	\$673,514,757	3.6%
Clarksdale	83,760,178	82,849,209	84,031,457	83,042,644	84,397,955	0.2
Clinton	216,824,192	215,400,746	219,766,379	238,190,869	238,704,997	2.4
Columbus	207,384,299	207,520,472	212,207,682	219,835,360	219,188,566	1.4
Greenville	201,216,099	205,375,459	203,364,186	207,650,264	223,866,331	2.7
Greenwood	115,862,323	106,864,240	108,802,717	104,333,810	106,334,642	(2.1)
Gulfport	805,811,344	816,814,675	842,676,090	856,464,936	896,764,815	2.7
Hattiesburg	473,044,936	482,280,326	493,705,826	505,342,123	543,307,810	3.5
Jackson	1,252,499,510	1,251,727,960	1,240,883,060	1,240,485,705	1,253,350,551	0.0
Laurel	188,151,450	197,898,826	209,600,233	213,686,120	226,039,433	4.7
McComb	106,190,926	102,885,698	104,961,127	105,338,858	110,059,087	0.9
Meridian	355,154,627	365,967,586	356,225,680	366,810,051	374,469,534	1.3
Natchez	124,775,441	133,225,319	199,737,420	278,349,768	258,346,030	20.0
Pascagoula	228,725,988	227,131,210	244,627,789	256,612,126	309,592,933	7.9
Tupelo	520,896,796	545,794,918	557,017,501	577,164,739	607,092,925	3.9
Vicksburg	288,172,230	308,408,615	310,753,836	351,588,059	533,298,230	16.6
Yazoo City	54,792,825	55,250,160	54,418,371	55,418,778	55,937,302	0.5





1. Based on the Board's funding policy, the millage rates established by the municipalities must be set at a level which will ensure actuarial soundness of the Systems. As can be seen from the table on page 5, the current millage rate for the fiscal year ending September 30, 2025 for one of the municipalities is less than the certified rate for the fiscal year ending September 30, 2026 under the funding policy. **Therefore, Clarksdale needs to increase their millage rate to the certified millage rate for the fiscal year ending September 30, 2026.**
2. As shown in the analysis of experience on pages 31 and 32, the System had an actuarial gain for the year. The gain was primarily due to more retiree deaths than expected.
3. From 2022 to 2023, the value of assessed property increased for fifteen and decreased for two of the seventeen municipalities. Under the funding policy, the value of assessed property is assumed to remain level. In general, if assessed property values grow, it contributes to a decrease in the millage rate.



## SECTION V – SUPPLEMENTAL DISCLOSURE INFORMATION



1. The following supplemental disclosure information is provided for informational purposes only. One such item is a distribution of the number of employees by type of membership, as follows:

### NUMBER OF ACTIVE AND RETIRED PARTICIPANTS AS OF JUNE 30, 2024

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	1,337
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Inactive Participants	0
Active Participants	<u>0</u>
Total	1,337



## SECTION V – SUPPLEMENTAL DISCLOSURE INFORMATION



2. The actuarial accrued liability is as follows:

### ACTUARIAL ACCRUED LIABILITY

Municipality	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio
Biloxi	\$19,429,989	\$7,869,787	\$11,560,202	40.50%
Clarksdale	4,527,413	797,808	3,729,605	17.62%
Clinton	10,114,494	8,687,059	1,427,435	85.89%
Columbus	8,288,511	1,493,976	6,794,535	18.02%
Greenville	6,436,435	1,962,176	4,474,259	30.49%
Greenwood	4,651,497	2,155,229	2,496,268	46.33%
Gulfport	15,998,336	8,266,052	7,732,284	51.67%
Hattiesburg	31,192,620	17,785,618	13,407,002	57.02%
Jackson	78,994,527	38,998,519	39,996,008	49.37%
Laurel	7,020,628	4,857,055	2,163,573	69.18%
McComb	2,042,656	558,735	1,483,921	27.35%
Meridian	19,298,693	10,887,238	8,411,455	56.41%
Natchez	4,788,468	1,469,975	3,318,493	30.70%
Pascagoula	9,090,976	6,193,111	2,897,865	68.12%
Tupelo	12,025,942	4,005,144	8,020,798	33.30%
Vicksburg	16,904,432	6,937,768	9,966,664	41.04%
Yazoo City	1,421,444	227,397	1,194,047	16.00%
<b>Totals</b>	<b>\$252,227,061</b>	<b>\$123,152,648</b>	<b>\$129,074,413</b>	<b>48.83%</b>

During the year ended June 30, 2024, the Systems experienced a net decrease of \$12,109,986 in the actuarial accrued liability.



## SECTION V – SUPPLEMENTAL DISCLOSURE INFORMATION



3. Another such item is the schedule of funding progress as shown below. As can be seen in column 3 of the table below, the aggregate funded ratio has begun to slowly improve in recent years expect it was slightly lower last year due to the change in the investment return assumption.

### SCHEDULE OF FUNDING PROGRESS (\$ Thousands)

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Aggregate Funded Ratio (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/15	\$162,616	\$341,525	47.6%	\$178,909	\$579	30,899.7%
06/30/16	159,160	330,663	48.1	171,503	419	40,931.5
06/30/17	157,674	321,747	49.0	164,073	321	51,113.1
06/30/18	154,749	307,457	50.3	152,707	200	76,354.0
06/30/19	147,671	296,006	49.9	148,335	95	156,142.1
06/30/20	140,731	286,436	49.1	145,705	N/A	N/A
06/30/21	140,258	274,426	51.1	134,168	N/A	N/A
06/30/22	136,246	265,490	51.3	129,244	N/A	N/A
06/30/23	129,392	264,337	49.0	134,945	N/A	N/A
06/30/24	123,153	252,227	49.0	129,074	N/A	N/A

Numbers shown above reflect all changes in benefit provisions, actuarial assumptions, and/or actuarial methods, if any.





## History of Funding Progress

Municipality	Actuarial Value of Assets as Percentage of AAL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Biloxi	39.55%	40.41%	41.27%	44.17%	44.50%	42.30%	40.53%	41.54%	40.34%	40.50%
Clarksdale	26.51	27.32	26.80	26.10	22.74	20.74	20.67	21.00	19.57	17.62
Clinton	82.74	84.38	87.19	87.20	87.00	87.03	88.91	89.59	87.16	85.89
Columbus	10.54	9.82	9.49	9.76	10.09	11.35	13.52	15.39	16.16	18.02
Greenville	36.64	35.56	35.41	34.58	34.19	32.93	36.11	35.98	32.13	30.49
Greenwood	38.27	39.47	40.56	41.40	41.18	40.60	44.29	45.79	48.47	46.33
Gulfport	47.63	47.01	47.60	48.56	49.64	46.86	43.86	53.33	51.81	51.67
Hattiesburg	58.53	58.29	58.68	59.86	58.67	58.27	60.15	56.92	56.59	57.02
Jackson	51.49	50.95	51.24	52.25	51.17	49.89	52.98	53.98	50.64	49.37
Laurel	36.20	40.17	40.07	43.23	45.54	48.56	58.44	60.68	60.11	69.18
McComb	25.49	25.94	27.40	30.28	31.83	32.85	42.60	36.73	27.18	27.35
Meridian	42.40	48.51	55.76	59.84	62.08	61.95	65.46	58.79	55.51	56.41
Natchez	29.61	30.24	29.45	27.79	30.54	29.98	30.87	29.81	20.85	30.70
Pascagoula	59.64	60.57	62.75	66.07	67.89	68.11	68.31	69.37	68.26	68.12
Tupelo	44.31	43.82	43.26	42.41	39.79	37.49	37.82	36.59	33.88	33.30
Vicksburg	53.82	53.77	53.02	53.64	49.63	50.22	50.84	48.74	43.25	41.04
Yazoo City	20.20	18.42	17.25	19.12	17.49	16.95	10.04	14.13	13.20	16.00





## SECTION V – SUPPLEMENTAL DISCLOSURE INFORMATION



4. In determining the Actuarially Determined Employer Contribution (ADEC) for GASB purposes, the contribution is based on the anticipated employer contributions as calculated using the current funding policy. The ADEC for the plan year ending June 30, 2024 was determined in the 2022 valuation and is the contribution amount for each municipality shown in Schedule H of the 2022 valuation report.

### Contributions Required and Contributions Made

Municipality	Actuarially Determined Employer Contribution	Actual 2023 – 2024 Contribution*	Percentage Contributed
Biloxi	\$1,102,869	\$1,142,721	103.6%
Clarksdale	399,780	379,582	94.9
Clinton	157,682	2,460	1.6
Columbus	1,126,292	1,020,546	90.6
Greenville	433,166	459,831	106.2
Greenwood	306,824	246,328	80.3
Gulfport	777,369	787,405	101.3
Hattiesburg	1,187,363	1,082,123	91.1
Jackson	3,753,671	4,093,817	109.1
Laurel	351,604	550,722	156.6
McComb	149,307	126,036	84.4
Meridian	823,772	939,266	114.0
Natchez	360,027	944,598	262.4
Pascagoula	320,462	361,870	112.9
Tupelo	817,423	956,077	117.0
Vicksburg	815,729	977,584	119.8
Yazoo City	170,330	185,124	108.7
Total	\$ 13,053,670	\$ 14,256,090	109.2%

\* Net of administrative expenses.





### Schedule of Employer Contributions\*

Fiscal Year 10/1-9/30	Valuation date	Actuarially Determined Employer Contribution	Percentage Contributed
2016-17	6/30/2016	\$17,693,519	100.2%
2017-18	6/30/2017	17,393,028	101.2
2018-19	6/30/2018	16,694,899	102.5
2019-20	6/30/2019	16,777,608	99.0
2020-21	6/30/2020	17,118,242	87.1
2021-22	6/30/2020	14,825,865	104.0
2022-23	6/30/2021	12,191,674	115.4
2023-24	6/30/2022	13,053,670	109.2
2024-25	6/30/2023	13,427,492	N/A
2025-26	6/30/2024	12,826,335	N/A

\* Methodology for ADEC determination was changed to match cash flow projections that calculate the certified millage rates beginning with the fiscal year ending in 2022.





## Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members			
		Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/15	17	11	\$579,267	\$52,661	1.4%
6/30/16	17	8	419,000	52,375	(0.5)
6/30/17	17	6	321,243	53,541	2.2
6/30/18	17	4	199,742	49,936	(6.7)
6/30/19	17	2	94,871	47,436	(5.0)
6/30/20	17	0	0	0	N/A
6/30/21	17	0	0	0	N/A
6/30/22	17	0	0	0	N/A
6/30/23	17	0	0	0	N/A
6/30/24	17	0	0	0	N/A

## Schedule of Retirants Added to and Removed From Rolls Last Ten Fiscal Years

Item	Fiscal Year Ended September 30									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning of Year	1,890	1,849	1,798	1,754	1,694	1,634	1,585	1,510	1,444	1,391
Added	40	46	34	36	37	34	34	31	30	35
Removed	(81)	(97)	(78)	(96)	(97)	(83)	(109)	(97)	(83)	(89)
End of Year	1,849	1,798	1,754	1,694	1,634	1,585	1,510	1,444	1,391	1,337

\*See Schedule D for a breakdown by type of retirement.



## SECTION V – SUPPLEMENTAL DISCLOSURE INFORMATION



**Schedule of Benefit Payments Added to and Removed From Rolls  
Last Six Fiscal Years**

Year Ending	2019	2020	2021	2022	2023	2024
Beginning of Year	\$32,997,690	\$32,423,308	\$31,819,367	\$30,845,547	\$29,977,629	\$29,355,805
Added	736,820	654,407	633,039	613,357	588,260	763,328
Removed	(1,441,224)	(1,386,860)	(1,724,751)	(1,612,065)	(1,433,618)	(1,634,784)
Benefit increase due to annual COLA	130,022	128,512	117,892	130,790	223,534	196,255
Benefit increase due to plan amendments	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
End of Year	\$32,423,308	\$31,819,367	\$30,845,547	\$29,977,629	\$29,355,805	\$28,680,604



## SECTION VI – RISK ASSESSMENT



Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions. The primary areas of risk in this actuarial valuation are.

- Investment Risk – the potential that actual investment returns will be different than expected.
- Longevity Risks – the potential that mortality will be different than expected.
- Contribution Risk – The potential that actual contributions are different than the actuarially determined contribution rates based on different assessed property rates

The table on the next page shows the sensitivity that the millage rates could have each year based on the risk measures listed above.



## SECTION VI – RISK ASSESSMENT



<b>Municipality</b>	<b>Baseline Millage Rate for Fiscal Year Ending 9/30/2026</b>	<b>Investment Risk (4.5% Returns) Millage Rate for Fiscal Year Ending 9/30/2026</b>	<b>Longevity Risk (10% Reduction in Mortality Rates) Millage Rate for Fiscal Year Ending 9/30/2026</b>	<b>Contribution Risk (Assessed Property Drops 5%) Millage Rate for Fiscal Year Ending 9/30/2026</b>
Biloxi	1.56	1.63	1.62	1.64
Clarksdale	4.93	5.02	5.01	5.19
Clinton	0.76	0.97	0.82	0.80
Columbus	3.32	3.37	3.38	3.48
Greenville	2.01	2.07	2.08	2.12
Greenwood	2.28	2.40	2.40	2.40
Gulfport	0.76	0.81	0.79	0.80
Hattiesburg	2.19	2.37	2.30	2.31
Jackson	3.07	3.24	3.26	3.24
Laurel	0.74	0.86	0.82	0.78
McComb	1.28	1.31	1.31	1.34
Meridian	2.01	2.16	2.16	2.11
Natchez	1.17	1.20	1.21	1.23
Pascagoula	0.91	1.01	1.00	0.96
Tupelo	1.27	1.31	1.31	1.33
Vicksburg	1.70	1.77	1.80	1.79
Yazoo City	2.38	2.41	2.41	2.51

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we include a low-default-risk obligation measure of the System's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of the plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities.

We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2024 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a liability of \$286.8 million. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan.



## SCHEDULE A – DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS



	6/30/2023	6/30/2024	6/30/2025	6/30/2026	6/30/2027	6/30/2028
A. Actuarial Value Beginning of Year	\$136,245,810	\$129,391,882				
B. Market Value End of Year	124,878,975	121,808,924				
C. Market Value Beginning of Year	131,677,650	124,878,975				
D. Cash Flow						
D1. Contributions	14,356,849	14,547,031				
D2. Other Revenue	0	0				
D3. Benefit Payments	(29,686,570)	(29,024,807)				
D4. Administrative Expenses	(287,137)	(290,941)				
D5. Net	(15,616,858)	(14,768,717)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	8,818,183	11,698,666				
E2. Assumed Rate	7.55%	7.00%				
E3. Amount for Immediate Recognition	9,352,126	8,224,623				
E4. Amount for Phased-In Recognition	(533,943)	3,474,043				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(106,789)	694,809	0	0	0	0
F2. First Prior Year	(4,858,005)	(106,789)	694,809	0	0	0
F3. Second Prior Year	5,913,409	(4,858,005)	(106,789)	694,809	0	0
F4. Third Prior Year	(1,338,564)	5,913,409	(4,858,005)	(106,789)	694,809	0
F5. Fourth Prior Year	<u>(199,247)</u>	<u>(1,338,564)</u>	<u>5,913,409</u>	<u>(4,858,005)</u>	<u>(106,789)</u>	<u>694,809</u>
F6. Total Recognized Investment Gain	(589,196)	304,860	1,643,424	(4,269,985)	588,020	694,809
G. Adjustment:	0	0				
H. Actuarial Value End of Year:						
A.+D5.+E3.+F6.+G.	\$129,391,882	\$123,152,648				
I. Difference Between Market & Actuarial Values	(4,512,907)	(1,343,724)	(2,987,148)	1,282,837	694,817	8

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



## SCHEDULE B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS



The assumptions and methods used in the valuation are based on the results of the experience investigation for the four-year period ending June 30, 2022, dated April 21, 2023, and adopted by the Board on August 22, 2023. The combined effect of the assumptions is expected to have no significant bias.

INTEREST RATE: 7.00% per annum, compounded annually (net after investment expenses) for liabilities.

5.50% per annum, compounded annually (net after investment expenses) for employer contribution rate determination.

PRICE INFLATION: 2.40% per annum, compounded annually.

ASSESSED PROPERTY: For the purposes of developing employer contribution rates, assessed property values are assumed to have 0% future annual growth.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value. Actuarial assets were allocated to individual cities in the same proportion that their market value of assets was to the total market value of assets for all cities.





## SCHEDULE B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS



### DEATH AFTER RETIREMENT:

#### Service Retirees\*

##### Membership Table

PubS.H-2010(B) Retiree

##### Adjustment to Rates

Male: 95% up to age 60, 110% for ages 61 to 75, and 101% for ages above 77  
Female: 84% up to age 72, 100% for ages above 76

##### Projection Scale

MP-2020

#### Contingent Annuitants\*

##### Membership Table

PubS.H-2010(B)  
Contingent Annuitant

##### Adjustment to Rates

Male: 97% for all ages  
Female: 110% for all ages

##### Projection Scale

MP-2020

#### Disabled Retirees\*

##### Membership Table

PubG.H-2010 Disabled

##### Adjustment to Rates

Male: 134% for all ages  
Female: 121% for all ages

##### Projection Scale

MP-2020

\* Please note that none of the recommended tables have any setbacks or setforwards.

Representative values of the assumed rates of death after retirement are as follows:

AGE	Rates of Death After Retirement*					
	Service Retirees		Contingent Annuitants		Disabled Retirees	
	Male	Female	Male	Female	Male	Female
45	0.2983%	0.0983%	0.7692%	0.5104%	1.4660%	1.1919%
50	0.4190%	0.1638%	0.8837%	0.6556%	2.2780%	1.7956%
55	0.5197%	0.2738%	1.0156%	0.7843%	2.9855%	2.1078%
60	0.7771%	0.4578%	1.2397%	1.0131%	3.6475%	2.4684%
65	1.3211%	0.7652%	1.6286%	1.4157%	4.5426%	2.9730%
70	2.1758%	1.2785%	2.4153%	1.9998%	5.8129%	3.8127%
75	3.8566%	2.3659%	3.7209%	3.0052%	7.6661%	5.2683%
80	6.2640%	4.2530%	5.7734%	4.7289%	10.8125%	7.7779%
85	11.0605%	7.3240%	9.2228%	7.8562%	15.7785%	11.9947%
90	17.6902%	12.6470%	14.6577%	13.4530%	22.7224%	17.5353%

\*Adjusted Base Rates



## SCHEDULE C – SUMMARY OF BENEFIT PROVISIONS EVALUATED



The following summary presents the main provisions of the Systems in effect June 30, 2024, as interpreted in preparing the actuarial valuation. As used in the summary, “average compensation” means the average compensation of a member during the six month period prior to receipt of an allowance.

### BENEFITS

#### Service Retirement

##### Condition for Retirement

A retirement allowance is payable to any member who retires and has completed at least 20 years of creditable service, regardless of age.

Any general employee member who has attained age 70 and any fireman or policeman who has attained age 65 shall be retired forthwith.

##### Amount of Allowance

The annual retirement allowance payable to a retired member is equal to:

1. 50% of average compensation, plus
2. 1.7% of average compensation for each year of credited service over 20.

The aggregate amount of (1) and (2) above shall not exceed 66-2/3% (87% for Clinton) of average compensation, regardless of service.

#### Disability Retirement

##### Condition for Retirement

A retirement allowance is payable to any member who is not eligible for a service retirement benefit but who becomes totally and permanently disabled, either physically or mentally, regardless of creditable service, if the disability is due to causes in the performance of duty. If the disability is not in the performance of duty, the member must have completed at least 5 years of creditable service to be eligible for retirement.





### Amount of Allowance

The annual disability retirement allowance payable is equal to 50% of his salary at the time of retirement if the disability is due to causes in the performance of duty.

If the disability is not in the performance of duty, the allowance is equal to 2.5% times credited service, not in excess of 20, times his salary at the time of retirement for firemen and policemen, and average compensation for general employees.

### Death Benefit

#### Conditions for Benefit

A benefit is payable upon the death of a member under the following conditions:

- (a) the member has retired,
- (b) the member is eligible to retire,
- (c) the death is in the line of duty, or
- (d) the death is not in the line of duty but occurs after the member has 5 years of credited service.

The benefit is payable to the surviving spouse until remarriage and to children under age 18, to dependent children through age 23 when full time students, and to dependent children of any age if handicapped. For Clarksdale, Columbus, Gulfport, Hattiesburg, Jackson, McComb, Meridian, Vicksburg and Yazoo City, benefits payable to spouses do not cease upon remarriage.

#### Amount of Benefit

The annual benefit payable under all conditions in the case of firemen and policemen and under other than condition (c) in the case of general employees is equal to 2.5% of average compensation for each year of credited service up to 20 and 1.7% of average compensation for each year over 20, with a maximum benefit of 66-2/3% (87% for Clinton) of average compensation.





## Return of Contributions

For general employee members under condition (c), the annual benefit payable is equal to 50% of salary at the time of death.

Upon a member's termination of employment for any reason before retirement, his accumulated contributions are refunded. Upon the death of a member who is not eligible for any other death benefit, his accumulated contributions are paid to his beneficiary.

## Minimum Allowances

The minimum monthly allowance paid to members from the following municipalities, for all retirement and death benefits, are:

Biloxi:	\$600
Columbus:	\$500
Gulfport:	\$500
Hattiesburg:	\$750
Jackson:	\$500
Meridian:	\$600
Tupelo:	\$750
Vicksburg:	\$1,515

## Post-Retirement Adjustments In Allowances

The allowances of certain retired members are adjusted annually by a cost-of-living adjustment (COLA) on the basis of the annual percentage change in each fiscal year of the Consumer Price Index.

Those adjustments are limited as follows:

Biloxi: 3% per year for each full fiscal year of retirement after June 30, 2000 for all retirees and beneficiaries with the COLA being compounded beginning with the state fiscal year in which the retired member turns age 55. This is in addition to the previously granted maximum of 3% per year (not to exceed 9%) for all members who retired on or before December 31, 1995.

Clarksdale: Maximum of 2-1/2% per year for all retirees and beneficiaries.





Clinton: Maximum of 2-1/2% per year (not to exceed 10%) for service retirements only.

Columbus: Maximum of 2-1/2% per year (not to exceed 25%) for all retirees and beneficiaries.

Greenville: Maximum of 2-1/2% per year (not to exceed 25%) for all retirees and beneficiaries.

Gulfport: Maximum of 3% per year (not to exceed 27%) for each fiscal year of retirement after June 30, 2002 for all retirees and beneficiaries. This is in addition to the previously granted COLA of 2% per year (not to exceed 6%) for those retired before July 1, 2001. All Gulfport retirees and beneficiaries who were receiving a retirement allowance as of June 30, 2002 were granted a monthly ad-hoc benefit increase of \$2 per month for each year of service plus \$2 per month for each full fiscal year retired.

Hattiesburg: 2-1/2% per year for all retirees and beneficiaries (not to exceed 32%).

Jackson: Maximum aggregate increase of 19.5% for service and disability retirements only.

Laurel: 2% per year, compounded annually (maximum of 3 years) for each fiscal year of retirement after June 30, 2002 for all retirees and beneficiaries. COLA increases begin at the later of age 60 or after one full fiscal year of retirement.

McComb: Maximum of 2-1/2% per year for all retirees and beneficiaries (not to exceed 10%).

Meridian: All retirees and beneficiaries who were receiving a retirement allowance as of June 30, 1999 were granted a 3.9% ad-hoc benefit increase. 2% per year for all retirees beginning in fiscal year 2022.





Pascagoula: Maximum of 2-1/2% per year for all retirees and beneficiaries (not to exceed 15%).

Tupelo: All retirees and beneficiaries received an increase of 5% in allowances effective December 1, 1991. Additional 3% ad-hoc benefit increases were granted to members who were retired for at least one full fiscal year as of September 30, 1995, as of September 30, 1997, as of September 30, 1998, and as of September 30, 2000.

Furthermore, a 2% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 1999 and a 2.34% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2001.

Furthermore, a 2% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2010.

Furthermore, a 2% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2014.

Furthermore, a 3% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2015.

Furthermore, a 3% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2016.

Furthermore, a 2% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2017.

Furthermore, a 3% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2018.

Furthermore, a 3% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2019.

Furthermore, a 1% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2020.

Furthermore, a 1% ad-hoc benefit increase was granted to members who were retired for at least one





full fiscal year as of September 30, 2021. Furthermore, a 3% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2022. Furthermore, a 2% ad-hoc benefit increase was granted to members who were retired for at least one full fiscal year as of September 30, 2023.

Vicksburg: 3% per year for all retirees and beneficiaries.

Yazoo City: Maximum of 2-1/2% per year (not to exceed 25%) for all retirees and beneficiaries.

Post-retirement adjustments are included in System liabilities for future increases for Biloxi, Clinton, Columbus, Greenville, Gulfport, Hattiesburg, Jackson, Laurel, McComb, Meridian, Pascagoula, Vicksburg, and Yazoo City.





## RECONCILIATION OF DATA RECEIVED FROM PERS

Reconciliation of Data received from PERS	Pensioner File			Total
	Retirees	Disableds	Survivors	
From PERS	775	33	613	1,421
Refunded				
Deceased	(49)	(6)	(32)	(87)
Retired				
Added	2		1	3
For Valuation	728	27	582	1,337

## STATUS RECONCILIATION FROM 2023 TO 2024

	Retirees	Disability	Survivor	Total
As of June 30, 2023	779	34	578	1,391
Death with Survivors	(31)	(2)	35	2
Deaths with no Survivors	(20)	(5)	(31)	(56)
Benefits Expired				
Data Corrections				
As of June 30, 2024	728	27	582	1,337







## Retirants & Beneficiaries as of June 30, 2024 Tabulated by Year of Retirement

Year of Retirement	No.	Annual Benefits excluding COLA	COLA	Total Annual Benefits	Average Monthly Benefit
2020	2	\$ 72,566	2,461	\$ 75,027	\$ 3,126
2019	3	97,605	7,387	104,992	2,916
2018	1	43,396	0	43,396	3,616
2017	2	80,083	5,842	85,925	3,580
2016	4	153,667	15,002	168,669	3,514
2015	1	25,335	0	25,335	2,111
2014	3	111,086	15,013	126,099	3,503
2013	8	349,766	61,218	410,984	4,281
2012	4	164,423	44,345	208,768	4,349
2011	0	0	0	0	0
2010	5	156,183	44,160	200,343	3,339
2009	3	79,418	6,048	85,466	2,374
2008	5	135,030	19,835	154,865	2,581
2007	7	224,464	71,309	295,773	3,521
2006	14	373,810	74,905	448,715	2,671
2005	26	680,230	132,619	812,849	2,605
2004	19	445,272	99,760	545,032	2,390
2003	29	761,136	199,042	960,178	2,759
2002	40	1,117,226	297,135	1,414,361	2,947
2001	22	635,046	147,735	782,781	2,965
2000	31	792,897	217,708	1,010,605	2,717
1999	33	804,157	204,150	1,008,307	2,546
1998	36	861,114	191,880	1,052,994	2,437
1997	47	1,037,194	198,333	1,235,527	2,191
1996	47	907,785	160,307	1,068,092	1,894
1995	92	1,608,080	261,238	1,869,318	1,693
1994	117	2,037,541	422,490	2,460,031	1,752
1993	86	1,465,701	316,804	1,782,505	1,727
1992	71	1,214,676	248,370	1,463,046	1,717
1991	65	1,119,259	192,504	1,311,763	1,682
1990	51	777,825	115,934	893,759	1,460
1989	39	551,124	130,292	681,416	1,456
1988 & Prior	424	4,656,096	1,237,587	5,893,683	1,158
Totals	1,337	\$ 23,539,191	\$ 5,141,413	\$ 28,680,604	\$ 1,788





## Schedule of Retired Members by Type of Benefit Benefits Payable June 30, 2024

Amount of Monthly Benefit	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1 - \$500	22	2	1	19
501 - 1,000	225	65	11	149
1,001 - 1,500	339	170	13	156
1,501 - 2,000	305	190	0	115
2,001 - 2,500	187	125	0	62
2,501 - 3,000	144	91	2	51
3,001 - 3,500	57	40	0	17
Over 3,500	58	45	0	13
Totals	1,337	728	27	582

### \*Type of Retirement

- 1 – Retirement for Age & Service
- 2 – Disability Retirement
- 3 – Survivor Payment



## SCHEDULE D – DETAILED TABULATIONS OF DATA



### Retirant and Beneficiary Information June 30, 2024 Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45								
45 – 49					1	\$22,130	1	\$22,130
50 – 54					1	35,633	1	35,633
55 – 59					3	46,709	3	46,709
60 – 64	26	\$768,696			12	261,123	38	1,029,819
65 – 69	40	1,262,644			33	706,025	73	1,968,669
70 – 74	199	5,223,834	7	\$110,682	76	1,582,133	282	6,916,649
75 – 79	213	5,002,848	7	87,762	140	2,700,030	360	7,790,640
80 – 84	121	2,776,651	7	70,281	147	2,719,626	275	5,566,558
85 – 89	87	1,664,877	5	83,180	99	1,710,886	191	3,458,943
90 – 94	35	694,878	1	9,001	57	928,437	93	1,632,316
95	3	54,461			4	49,282	7	103,743
96	1	11,812			4	35,215	5	47,027
97	2	25,403			1	5,064	3	30,467
98					1	7,794	1	7,794
99	1	2,826					1	2,826
100 & Over					3	20,681	3	20,681
Totals	728	\$17,488,930	27	\$360,906	582	\$10,830,768	1,337	\$28,680,604



## SCHEDULE E – ANALYSIS OF FINANCIAL EXPERIENCE



Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended June 30, 2024 is shown below.

	\$ Thousands
(1) UAAL* as of beginning of year	\$ 134,945.2
(2) Total normal cost from last valuation	0.0
(3) Total contributions**	14,256.1
(4) Interest accrual: $\{[(1) + (2)] \times .07\} - [(3) \times .03441]$	<u>8,955.6</u>
(5) Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 129,644.7
(6) Change due to plan amendments	235.8
(7) Change due to new actuarial assumptions or methods	<u>0.0</u>
(8) Expected UAAL after changes: (5) + (6) + (7)	\$ 129,880.5
(9) Actual UAAL as of end of year	\$ 129,074.4
(10) Gain/(loss): (8) – (9)	\$ 806.1

\*Unfunded actuarial accrued liability.

\*\*Net of administrative expenses.





## Gains & Losses in Liabilities Resulting from Differences Between Assumed Experience & Actual Experience (\$ Thousands)

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2024	\$ Gain (or Loss) For Year Ending 6/30/2023
<b>Investment Income.</b> If there is greater investment income than assumed, there is a gain. If less income, a loss.	\$ (19.8)	\$ (944.8)
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	1,106.0	942.6
<b>Other.</b> Miscellaneous gains and losses resulting from data adjustments, software programming, COLAs, etc.	<u>(280.1)</u>	<u>(199.3)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ 806.1	\$ (201.5)
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, or method changes.	<u>(235.8)</u>	<u>(10,332.6)</u>
<b>Composite Gain (or Loss) During Year</b>	\$ 570.3	\$ (10,534.1)





Actuarial Accrued Liability. 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”.

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

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.

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”.

Actuarial Equivalent. A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

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.

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 valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. 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.

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.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability”.

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on a market-related smoothing method.





Regular actuarial valuations measure the Retirement System's present financial position and contributions adequacy by calculating and financing the liabilities created by the present benefit program. This process involves discounting to present values the future benefit payments on behalf of present active and retired members and their survivors. However, valuations do not produce information regarding future changes in the makeup of the covered group or the amounts of benefits to be paid or investment income to be received – actuarial projections do.

Whereas valuations provide a snapshot of the retirement system as of a given date, projections provide a moving picture. Projected active and retired groups are developed from year to year by the application of assumptions regarding pre-retirement withdrawal from service, retirement, deaths and disabilities. Projected information regarding the retired life group leads to assumed future benefit payout. Combining future benefit payments with assumed contributions and expected investment earnings produces the net cash flow of the System each year, and thus end of year asset levels.

Projections are used for many purposes. Among them are (i) developing cash flow patterns for investment policy and asset mix consideration, (ii) exploring the effect of alternative assumptions about future experience, (iii) analyzing the impact on system funding progress of changes in the workforce, and (iv) examining the potential effect of changes in benefits on system financial activity.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example: how benefits payable and system assets will grow in future decades. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. For instance, cash flow projected to occur 10 years in the future will not be exact (except by coincidence), but understanding the changed relationships between future benefit payout and future investment income can be very useful.





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Mississippi Municipal Retirement Systems  
City of Biloxi

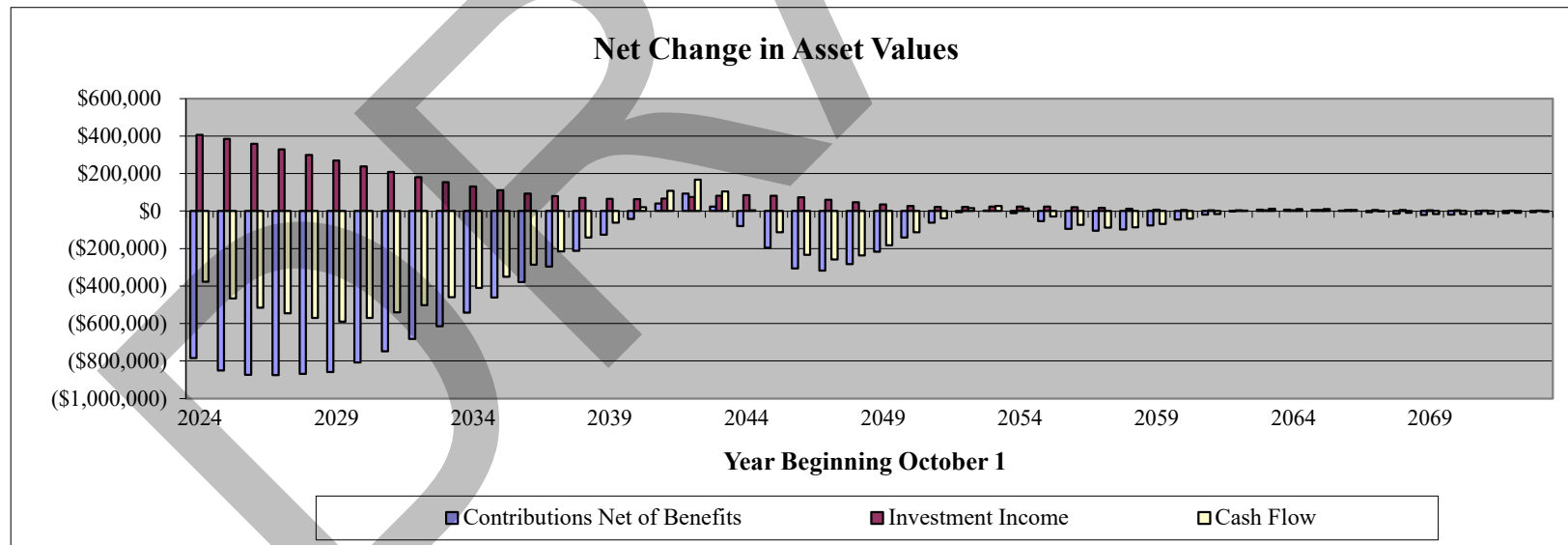
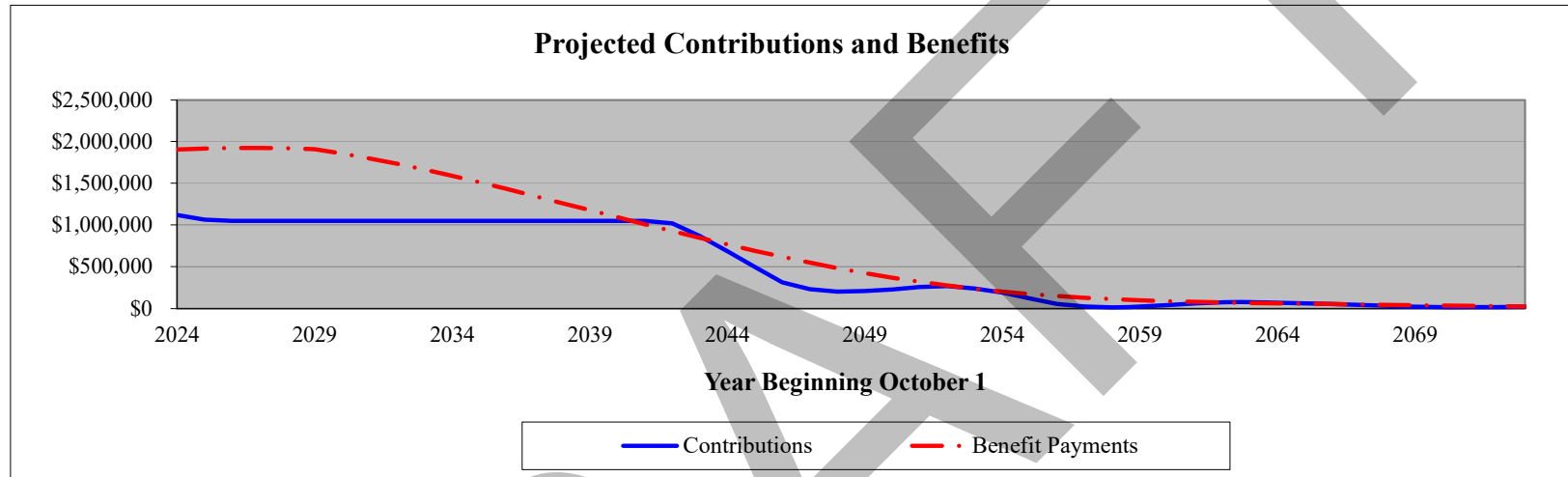
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$673,514,757	\$7,783,920	0.00156	\$1,120,107	\$1,904,579	\$406,831	(\$377,641)	\$7,406,279	2025
2025	673,514,757	7,406,279	0.00156	1,065,837	1,916,956	384,253	(466,866)	6,939,413	2026
2026	673,514,757	6,939,413	0.00156	1,050,683	1,924,649	357,955	(516,011)	6,423,402	2027
2027	673,514,757	6,423,402	0.00156	1,050,683	1,925,167	329,561	(544,923)	5,878,479	2028
2028	673,514,757	5,878,479	0.00156	1,050,683	1,920,159	299,726	(569,750)	5,308,729	2029
2029	673,514,757	5,308,729	0.00156	1,050,683	1,909,214	268,686	(589,845)	4,718,883	2030
2030	673,514,757	4,718,883	0.00156	1,050,683	1,857,706	237,642	(569,381)	4,149,502	2031
2031	673,514,757	4,149,502	0.00156	1,050,683	1,798,404	207,936	(539,785)	3,609,718	2032
2032	673,514,757	3,609,718	0.00156	1,050,683	1,733,723	180,002	(503,038)	3,106,680	2033
2033	673,514,757	3,106,680	0.00156	1,050,683	1,665,057	154,198	(460,176)	2,646,504	2034
2038	673,514,757	1,382,764	0.00156	1,050,683	1,262,352	70,309	(141,360)	1,241,404	2039
2043	673,514,757	1,474,665	0.00126	869,697	846,735	81,730	104,692	1,579,357	2044
2048	673,514,757	978,314	0.00072	201,317	484,268	46,130	(236,821)	741,493	2049
2053	673,514,757	422,548	0.00035	237,891	234,989	23,319	26,221	448,769	2054
2058	673,514,757	270,522	0.00017	12,906	112,005	12,190	(86,909)	183,614	2059
2063	673,514,757	60,795	0.00010	73,605	65,648	3,560	11,517	72,312	2064
2068	673,514,757	98,048	0.00006	29,433	43,247	5,018	(8,796)	89,252	2069
2073	673,514,757	34,107	0.00004	19,800	25,275	1,727	(3,748)	30,360	2074



# Mississippi Municipal Retirement Systems City of Biloxi

## 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Clarksdale

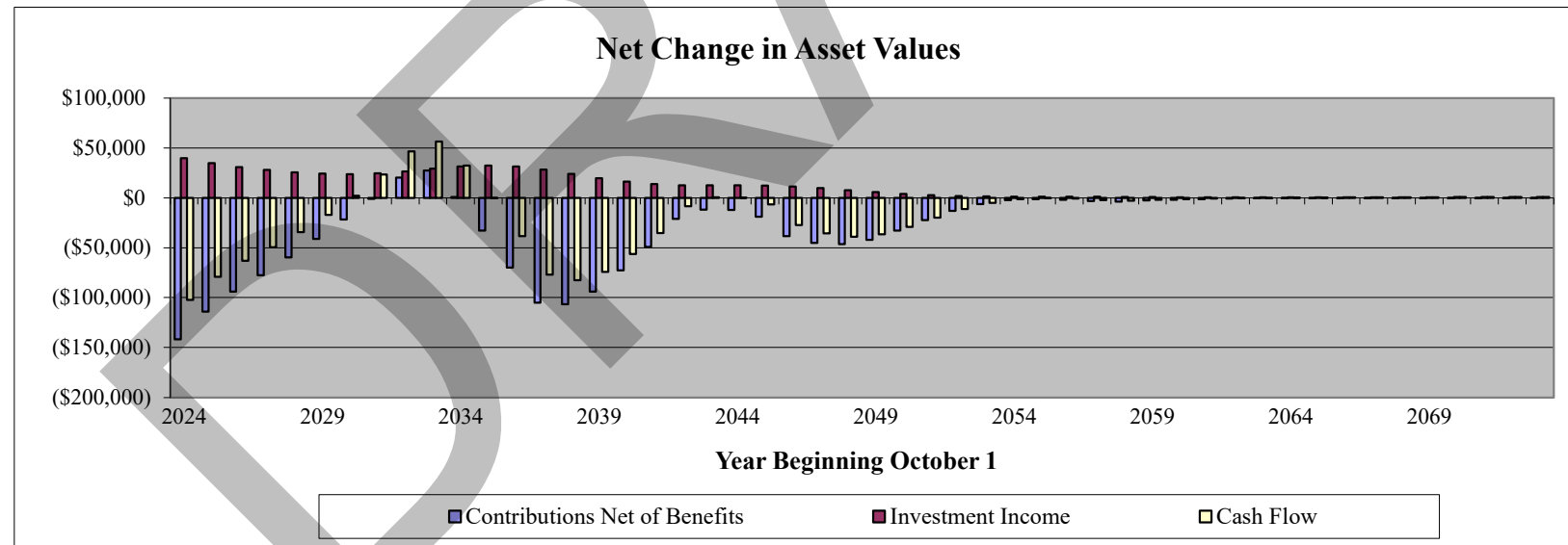
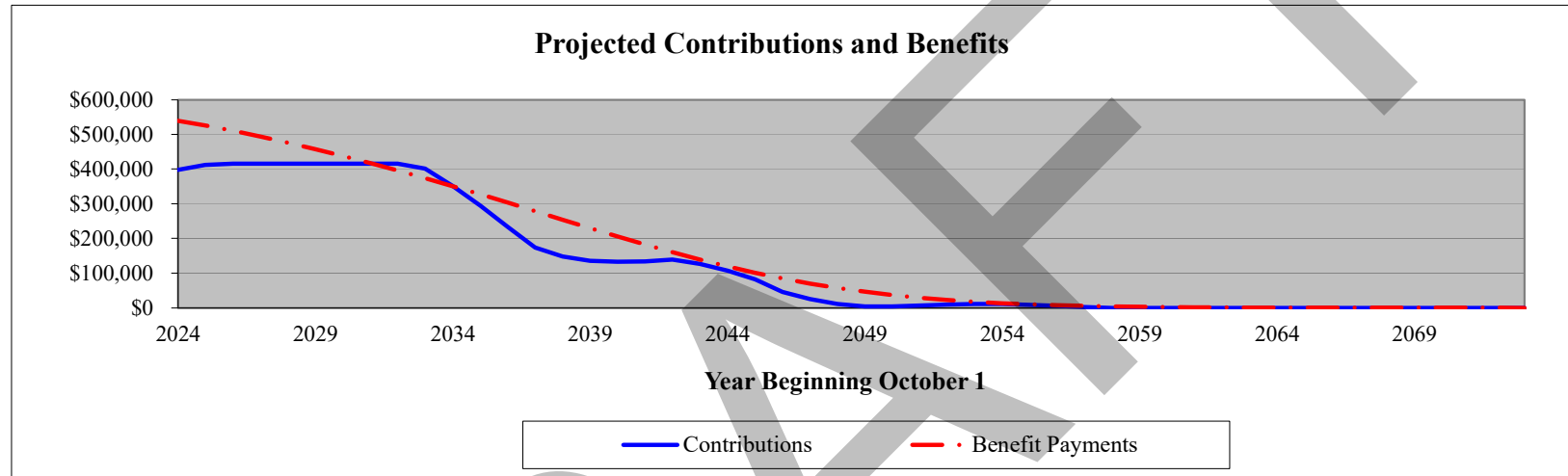
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$84,397,955	\$789,104	0.00493	\$397,797	\$539,725	\$39,550	(\$102,378)	\$686,725	2025
2025	84,397,955	686,725	0.00493	411,651	525,590	34,679	(79,260)	607,465	2026
2026	84,397,955	607,465	0.00493	416,082	510,168	30,858	(63,228)	544,237	2027
2027	84,397,955	544,237	0.00493	416,082	493,587	27,830	(49,675)	494,563	2028
2028	84,397,955	494,563	0.00493	416,082	475,939	25,577	(34,280)	460,282	2029
2029	84,397,955	460,282	0.00493	416,082	457,300	24,197	(17,021)	443,262	2030
2030	84,397,955	443,262	0.00493	416,082	437,718	23,792	2,156	445,417	2031
2031	84,397,955	445,417	0.00493	416,082	417,225	24,467	23,324	468,742	2032
2032	84,397,955	468,742	0.00469	416,082	395,852	26,330	46,561	515,302	2033
2033	84,397,955	515,302	0.00443	400,909	373,652	29,081	56,338	571,641	2034
2038	84,397,955	488,035	0.00301	147,478	254,045	23,951	(82,616)	405,419	2039
2043	84,397,955	230,980	0.00164	126,815	138,813	12,378	380	231,360	2044
2048	84,397,955	162,289	0.00068	10,587	57,155	7,662	(38,906)	123,383	2049
2053	84,397,955	26,650	0.00020	10,841	17,072	1,297	(4,934)	21,716	2054
2058	84,397,955	16,988	0.00004	0	3,753	832	(2,921)	14,066	2059
2063	84,397,955	9,725	0.00001	0	587	519	(68)	9,656	2064
2068	84,397,955	10,981	0.00000	0	50	603	553	11,535	2069
2073	84,397,955	14,228	0.00000	0	2	783	781	15,010	2074



**Mississippi Municipal Retirement Systems  
City of Clarksdale**

**50 Year Cash Flow Projection  
Based on Valuation Assumptions**





**Mississippi Municipal Retirement Systems  
City of Clinton**

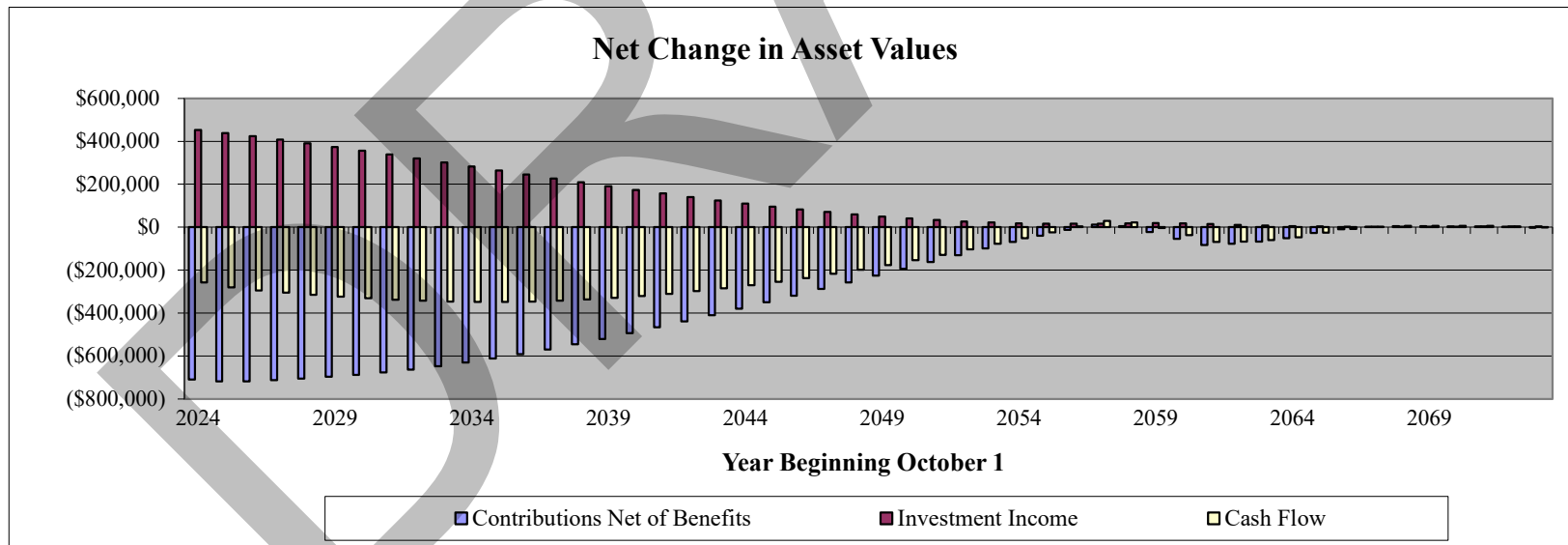
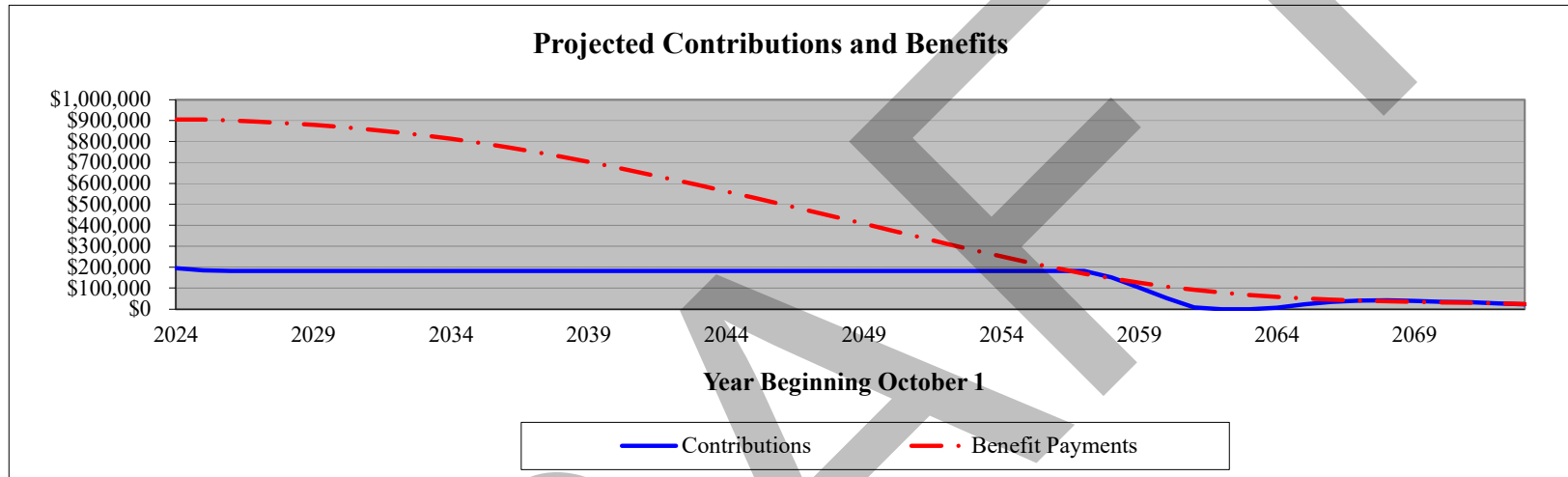
**Cash Flow Projection  
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2024	\$238,704,997	\$8,592,275	0.00076	\$195,033	\$905,722	\$453,293	(\$257,396)	\$8,334,879	2025
2025	238,704,997	8,334,879	0.00076	184,400	903,921	438,896	(280,625)	8,054,254	2026
2026	238,704,997	8,054,254	0.00076	181,416	900,064	423,486	(295,162)	7,759,092	2027
2027	238,704,997	7,759,092	0.00076	181,416	894,313	407,408	(305,489)	7,453,603	2028
2028	238,704,997	7,453,603	0.00076	181,416	887,370	390,794	(315,160)	7,138,444	2029
2029	238,704,997	7,138,444	0.00076	181,416	879,086	373,685	(323,985)	6,814,458	2030
2030	238,704,997	6,814,458	0.00076	181,416	869,312	356,131	(331,765)	6,482,693	2031
2031	238,704,997	6,482,693	0.00076	181,416	857,915	338,193	(338,306)	6,144,387	2032
2032	238,704,997	6,144,387	0.00076	181,416	844,779	319,943	(343,420)	5,800,967	2033
2033	238,704,997	5,800,967	0.00076	181,416	829,821	301,461	(346,944)	5,454,023	2034
2038	238,704,997	4,066,578	0.00076	181,416	727,755	208,839	(337,500)	3,729,078	2039
2043	238,704,997	2,468,741	0.00076	181,416	591,211	124,662	(285,133)	2,183,608	2044
2048	238,704,997	1,203,870	0.00076	181,416	438,602	59,235	(197,951)	1,005,919	2049
2053	238,704,997	442,559	0.00076	181,416	281,008	21,639	(77,953)	364,607	2054
2058	238,704,997	320,085	0.00061	150,440	145,945	17,727	22,222	342,307	2059
2063	238,704,997	164,178	0.00028	0	66,938	7,214	(59,724)	104,453	2064
2068	238,704,997	23,967	0.00016	41,859	37,126	1,447	6,180	30,148	2069
2073	238,704,997	49,428	0.00010	22,068	24,854	2,643	(143)	49,285	2074



# Mississippi Municipal Retirement Systems City of Clinton

## 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Columbus

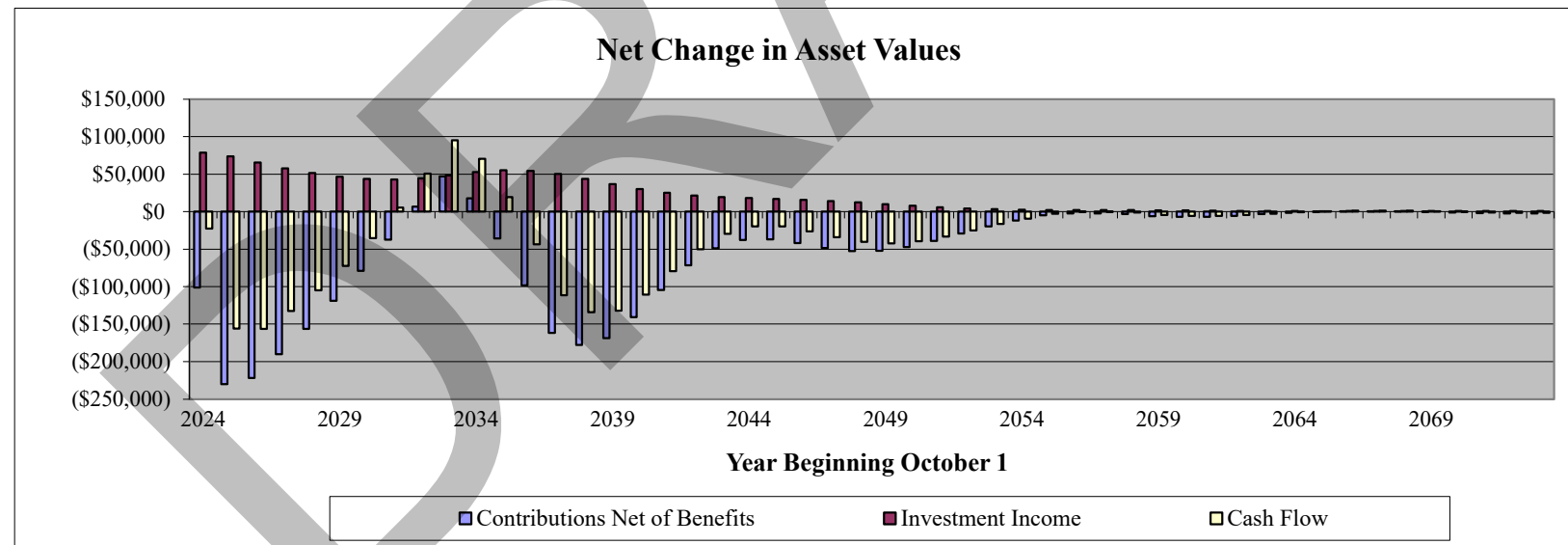
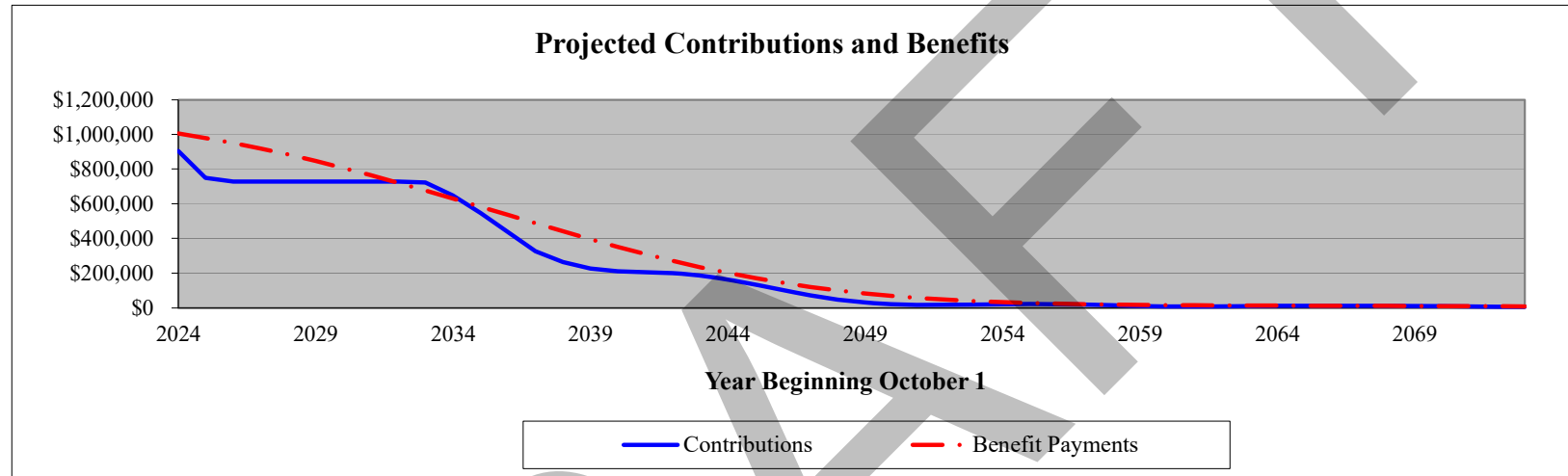
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$219,188,566	\$1,477,676	0.00332	\$903,927	\$1,005,213	\$78,524	(\$22,762)	\$1,454,913	2025
2025	219,188,566	1,454,913	0.00332	748,529	978,483	73,781	(156,173)	1,298,740	2026
2026	219,188,566	1,298,740	0.00332	727,706	949,433	65,415	(156,312)	1,142,428	2027
2027	219,188,566	1,142,428	0.00332	727,706	917,960	57,672	(132,582)	1,009,847	2028
2028	219,188,566	1,009,847	0.00332	727,706	883,945	51,302	(104,937)	904,910	2029
2029	219,188,566	904,910	0.00332	727,706	846,516	46,546	(72,264)	832,645	2030
2030	219,188,566	832,645	0.00332	727,706	806,796	43,650	(35,440)	797,206	2031
2031	219,188,566	797,206	0.00332	727,706	764,961	42,836	5,581	802,787	2032
2032	219,188,566	802,787	0.00329	727,706	721,263	44,328	50,771	853,558	2033
2033	219,188,566	853,558	0.00308	722,874	676,017	48,217	95,074	948,632	2034
2038	219,188,566	883,493	0.00201	263,203	441,037	43,767	(134,067)	749,426	2039
2043	219,188,566	376,730	0.00107	185,234	234,090	19,395	(29,461)	347,268	2044
2048	219,188,566	247,420	0.00046	47,300	99,828	12,183	(40,345)	207,075	2049
2053	219,188,566	66,809	0.00017	18,636	38,335	3,140	(16,559)	50,249	2054
2058	219,188,566	36,899	0.00008	14,951	18,171	1,942	(1,278)	35,621	2059
2063	219,188,566	15,300	0.00006	9,171	12,610	748	(2,691)	12,609	2064
2068	219,188,566	14,394	0.00005	10,990	10,553	804	1,241	15,635	2069
2073	219,188,566	13,268	0.00004	6,225	8,651	664	(1,762)	11,505	2074



## Mississippi Municipal Retirement Systems City of Columbus

### 50 Year Cash Flow Projection Based on Valuation Assumptions







Mississippi Municipal Retirement Systems  
City of Greenville

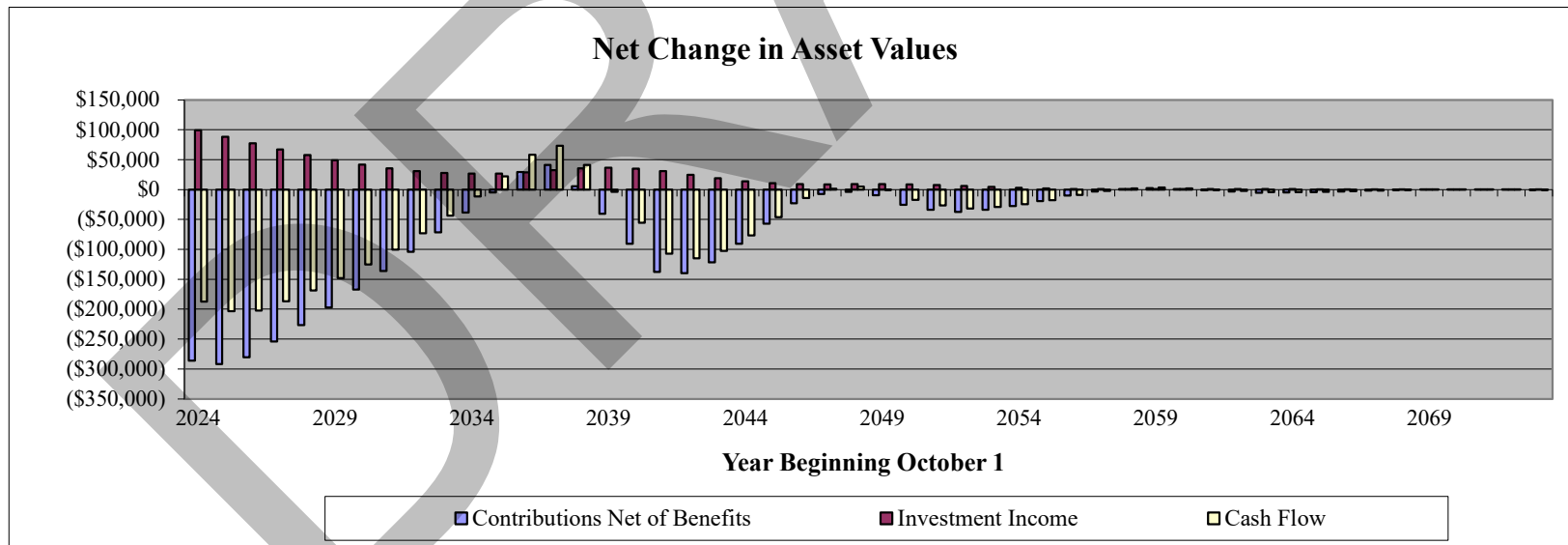
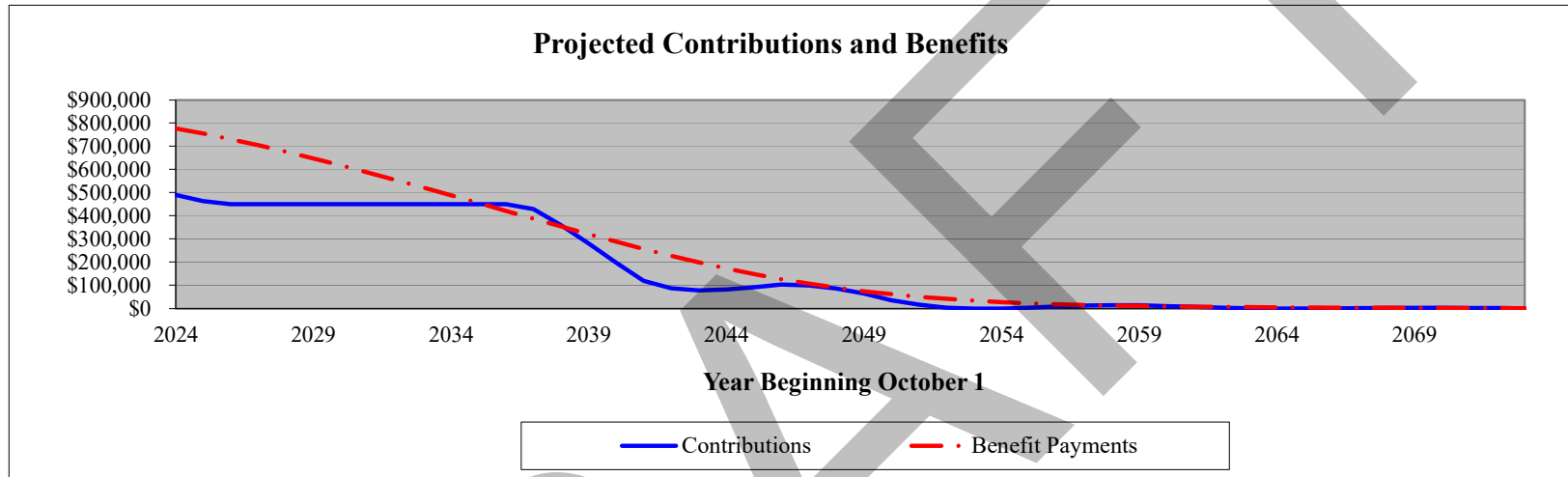
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$223,866,331	\$1,940,767	0.00201	\$490,822	\$777,199	\$98,972	(\$187,405)	\$1,753,362	2025
2025	223,866,331	1,753,362	0.00201	462,844	754,638	88,518	(203,276)	1,550,086	2026
2026	223,866,331	1,550,086	0.00201	449,971	730,219	77,651	(202,597)	1,347,489	2027
2027	223,866,331	1,347,489	0.00201	449,971	704,088	67,217	(186,900)	1,160,589	2028
2028	223,866,331	1,160,589	0.00201	449,971	676,423	57,688	(168,764)	991,825	2029
2029	223,866,331	991,825	0.00201	449,971	647,407	49,194	(148,242)	843,583	2030
2030	223,866,331	843,583	0.00201	449,971	617,221	41,859	(125,391)	718,193	2031
2031	223,866,331	718,193	0.00201	449,971	586,044	35,809	(100,264)	617,929	2032
2032	223,866,331	617,929	0.00201	449,971	554,045	31,162	(72,912)	545,017	2033
2033	223,866,331	545,017	0.00201	449,971	521,375	28,039	(43,365)	501,652	2034
2038	223,866,331	643,855	0.00158	359,188	353,487	35,567	41,268	685,123	2039
2043	223,866,331	403,742	0.00089	77,261	198,887	18,906	(102,720)	301,022	2044
2048	223,866,331	165,612	0.00040	85,341	89,289	9,002	5,055	170,666	2049
2053	223,866,331	95,490	0.00015	0	33,537	4,342	(29,195)	66,296	2054
2058	223,866,331	13,360	0.00006	13,515	12,586	760	1,689	15,049	2059
2063	223,866,331	18,448	0.00003	577	5,621	878	(4,166)	14,282	2064
2068	223,866,331	2,023	0.00001	2,179	2,642	99	(364)	1,659	2069
2073	223,866,331	3,224	0.00000	598	921	169	(154)	3,070	2074



# Mississippi Municipal Retirement Systems City of Greenville

## 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Greenwood

Cash Flow Projection

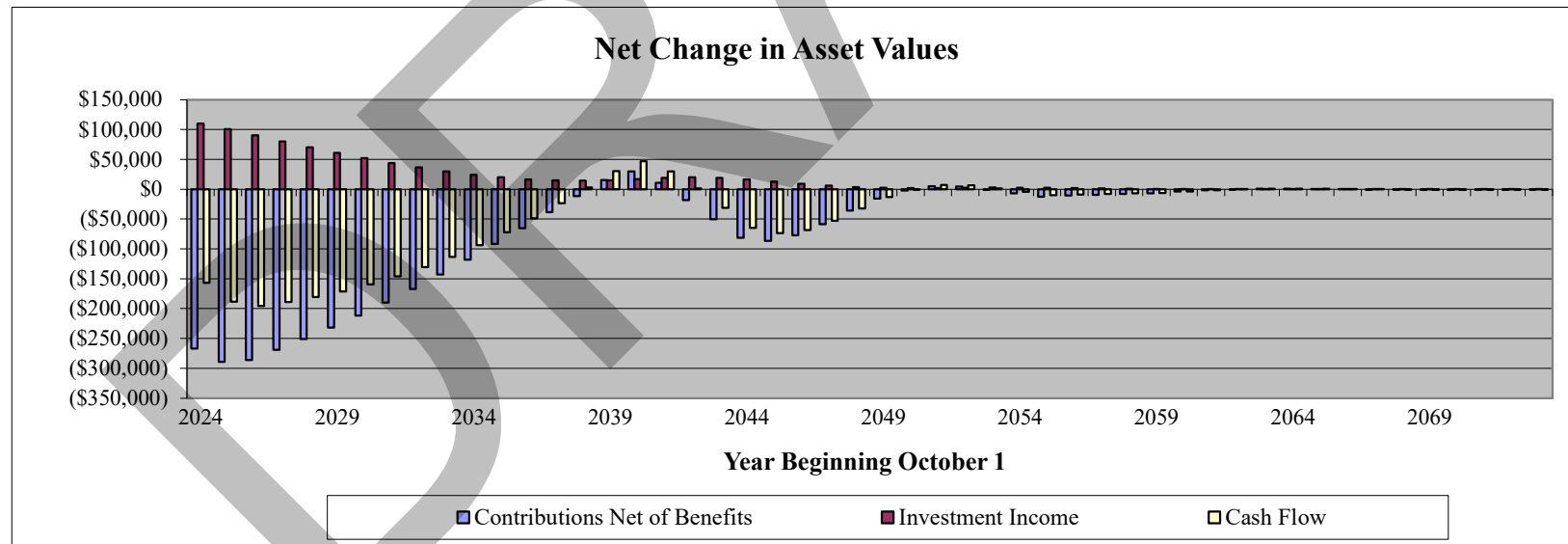
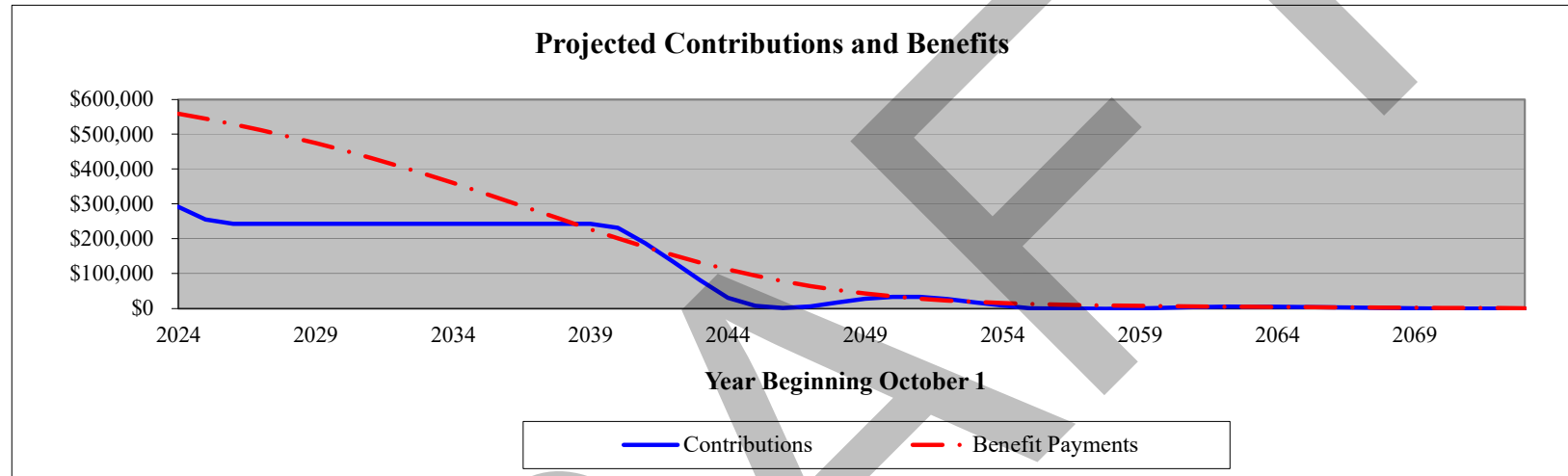
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2024	\$106,334,642	\$2,131,713	0.00228	\$292,103	\$559,211	\$109,997	(\$157,111)	\$1,974,602	2025
2025	106,334,642	1,974,602	0.00228	255,203	544,336	100,758	(188,375)	1,786,226	2026
2026	106,334,642	1,786,226	0.00228	242,443	528,484	90,482	(195,559)	1,590,667	2027
2027	106,334,642	1,590,667	0.00228	242,443	511,596	80,184	(188,969)	1,401,698	2028
2028	106,334,642	1,401,698	0.00228	242,443	493,609	70,279	(180,887)	1,220,812	2029
2029	106,334,642	1,220,812	0.00228	242,443	474,453	60,850	(171,160)	1,049,651	2030
2030	106,334,642	1,049,651	0.00228	242,443	454,069	51,989	(159,637)	890,015	2031
2031	106,334,642	890,015	0.00228	242,443	432,423	43,796	(146,184)	743,831	2032
2032	106,334,642	743,831	0.00228	242,443	409,530	36,377	(130,710)	613,121	2033
2033	106,334,642	613,121	0.00228	242,443	385,456	29,841	(113,172)	499,949	2034
2038	106,334,642	262,034	0.00228	242,443	253,815	14,103	2,731	264,766	2039
2043	106,334,642	373,000	0.00124	80,860	131,399	19,144	(31,395)	341,604	2044
2048	106,334,642	82,350	0.00049	16,608	52,557	3,554	(32,395)	49,954	2049
2053	106,334,642	50,719	0.00017	17,342	18,510	2,758	1,590	52,309	2054
2058	106,334,642	21,167	0.00008	0	7,984	948	(7,036)	14,131	2059
2063	106,334,642	2,634	0.00004	5,048	4,335	164	877	3,510	2064
2068	106,334,642	5,980	0.00002	1,326	2,030	310	(394)	5,585	2069
2073	106,334,642	1,963	0.00001	0	590	92	(498)	1,465	2074



## Mississippi Municipal Retirement Systems City of Greenwood

### 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Gulfport

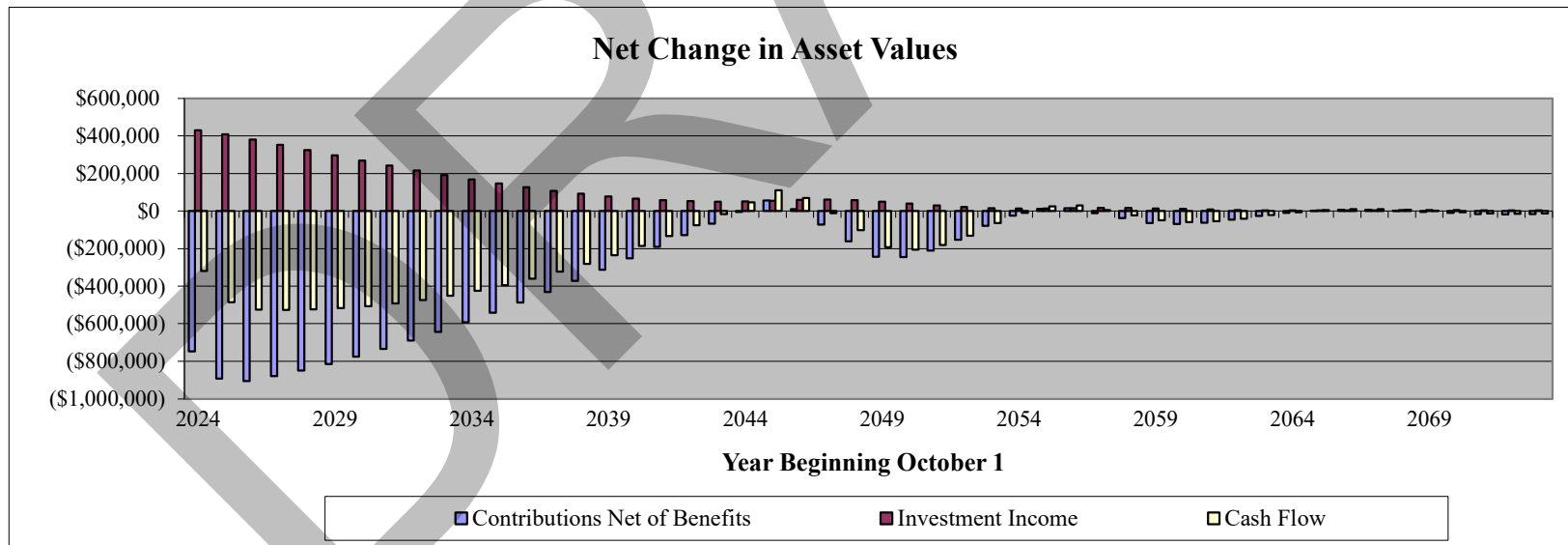
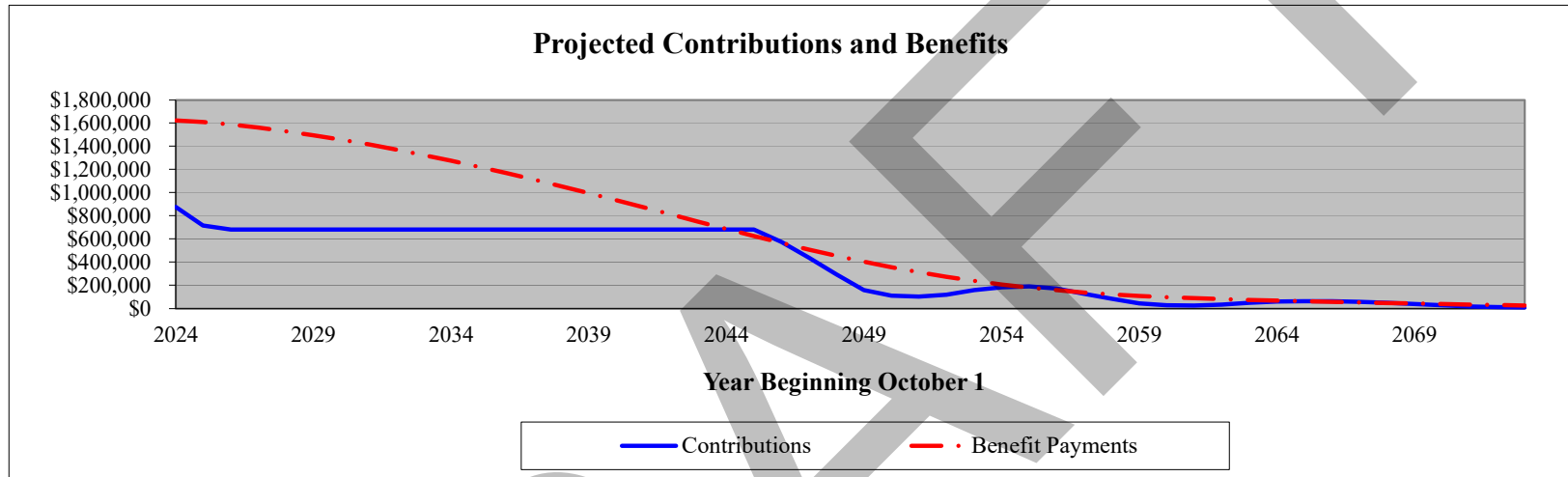
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$896,764,815	\$8,175,861	0.00076	\$875,405	\$1,623,466	\$429,376	(\$318,685)	\$7,857,176	2025
2025	896,764,815	7,857,176	0.00076	715,170	1,607,968	407,921	(484,877)	7,372,299	2026
2026	896,764,815	7,372,299	0.00076	681,541	1,587,558	380,894	(525,123)	6,847,176	2027
2027	896,764,815	6,847,176	0.00076	681,541	1,561,356	352,724	(527,091)	6,320,085	2028
2028	896,764,815	6,320,085	0.00076	681,541	1,530,412	324,573	(524,298)	5,795,787	2029
2029	896,764,815	5,795,787	0.00076	681,541	1,495,744	296,677	(517,526)	5,278,260	2030
2030	896,764,815	5,278,260	0.00076	681,541	1,457,579	269,249	(506,789)	4,771,471	2031
2031	896,764,815	4,771,471	0.00076	681,541	1,416,172	242,499	(492,132)	4,279,339	2032
2032	896,764,815	4,279,339	0.00076	681,541	1,371,778	216,636	(473,601)	3,805,738	2033
2033	896,764,815	3,805,738	0.00076	681,541	1,324,626	191,867	(451,218)	3,354,520	2034
2038	896,764,815	1,851,113	0.00076	681,541	1,054,223	91,700	(280,982)	1,570,131	2039
2043	896,764,815	939,662	0.00076	681,541	748,172	49,874	(16,757)	922,905	2044
2048	896,764,815	1,137,572	0.00051	293,652	454,233	58,210	(102,371)	1,035,201	2049
2053	896,764,815	323,560	0.00026	157,421	237,031	15,636	(63,974)	259,586	2054
2058	896,764,815	310,203	0.00014	83,772	121,992	16,024	(22,196)	288,007	2059
2063	896,764,815	83,698	0.00008	47,717	73,340	3,908	(21,715)	61,984	2064
2068	896,764,815	81,012	0.00005	48,561	46,964	4,499	6,096	87,108	2069
2073	896,764,815	54,620	0.00003	10,595	26,312	2,578	(13,139)	41,481	2074



**Mississippi Municipal Retirement Systems  
City of Gulfport**

**50 Year Cash Flow Projection  
Based on Valuation Assumptions**





Mississippi Municipal Retirement Systems  
City of Hattiesburg

Cash Flow Projection

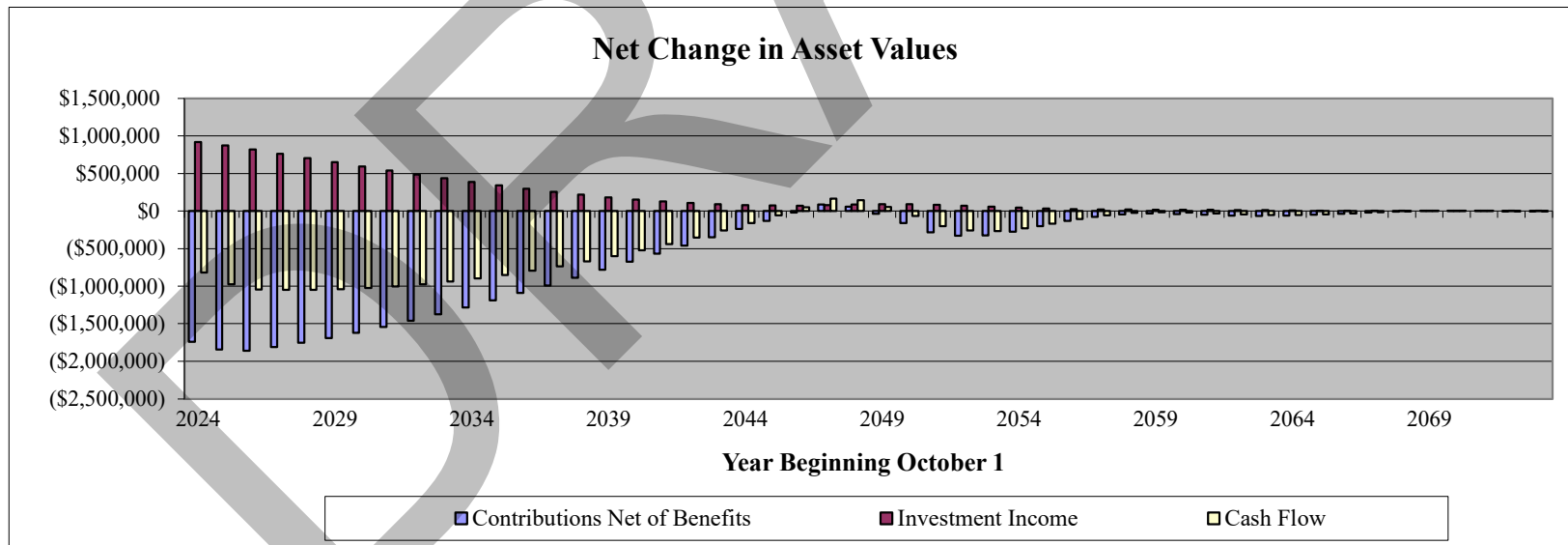
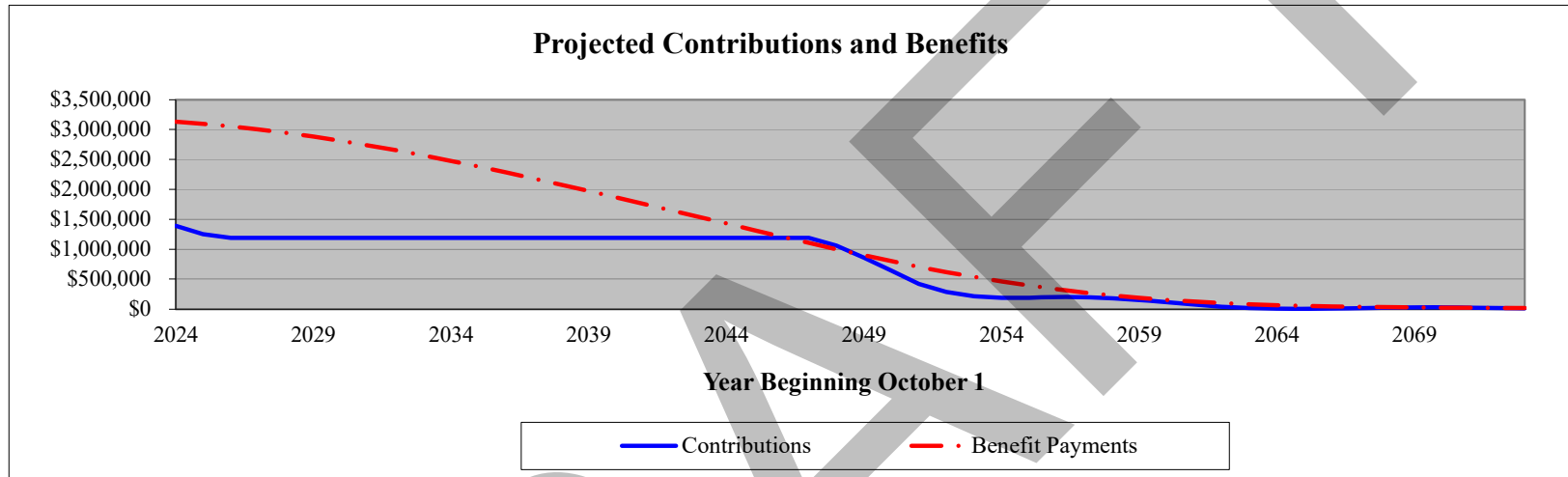
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2024	\$543,307,810	\$17,591,558	0.00219	\$1,391,304	\$3,131,940	\$920,309	(\$820,327)	\$16,771,231	2025
2025	543,307,810	16,771,231	0.00219	1,249,608	3,095,667	872,331	(973,728)	15,797,503	2026
2026	543,307,810	15,797,503	0.00219	1,189,844	3,052,337	818,330	(1,044,163)	14,753,341	2027
2027	543,307,810	14,753,341	0.00219	1,189,844	3,001,714	762,274	(1,049,596)	13,703,745	2028
2028	543,307,810	13,703,745	0.00219	1,189,844	2,943,970	706,113	(1,048,013)	12,655,732	2029
2029	543,307,810	12,655,732	0.00219	1,189,844	2,880,098	650,205	(1,040,049)	11,615,683	2030
2030	543,307,810	11,615,683	0.00219	1,189,844	2,810,166	594,900	(1,025,422)	10,590,262	2031
2031	543,307,810	10,590,262	0.00219	1,189,844	2,733,995	540,569	(1,003,582)	9,586,679	2032
2032	543,307,810	9,586,679	0.00219	1,189,844	2,652,625	487,579	(975,202)	8,611,477	2033
2033	543,307,810	8,611,477	0.00219	1,189,844	2,566,332	436,284	(940,204)	7,671,274	2034
2038	543,307,810	4,390,192	0.00219	1,189,844	2,078,266	217,356	(671,066)	3,719,126	2039
2043	543,307,810	1,801,444	0.00219	1,189,844	1,539,443	89,594	(260,005)	1,541,440	2044
2048	543,307,810	1,536,346	0.00184	1,058,485	999,326	86,104	145,263	1,681,609	2049
2053	543,307,810	1,209,521	0.00099	212,069	535,771	57,741	(265,961)	943,561	2054
2058	543,307,810	381,060	0.00042	182,798	227,872	19,735	(25,339)	355,721	2059
2063	543,307,810	237,093	0.00015	15,659	80,839	11,272	(53,908)	183,184	2064
2068	543,307,810	34,841	0.00006	23,617	30,879	1,719	(5,543)	29,298	2069
2073	543,307,810	41,152	0.00003	10,988	16,874	2,104	(3,782)	37,370	2074



# Mississippi Municipal Retirement Systems City of Hattiesburg

## 50 Year Cash Flow Projection Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems  
City of Jackson**



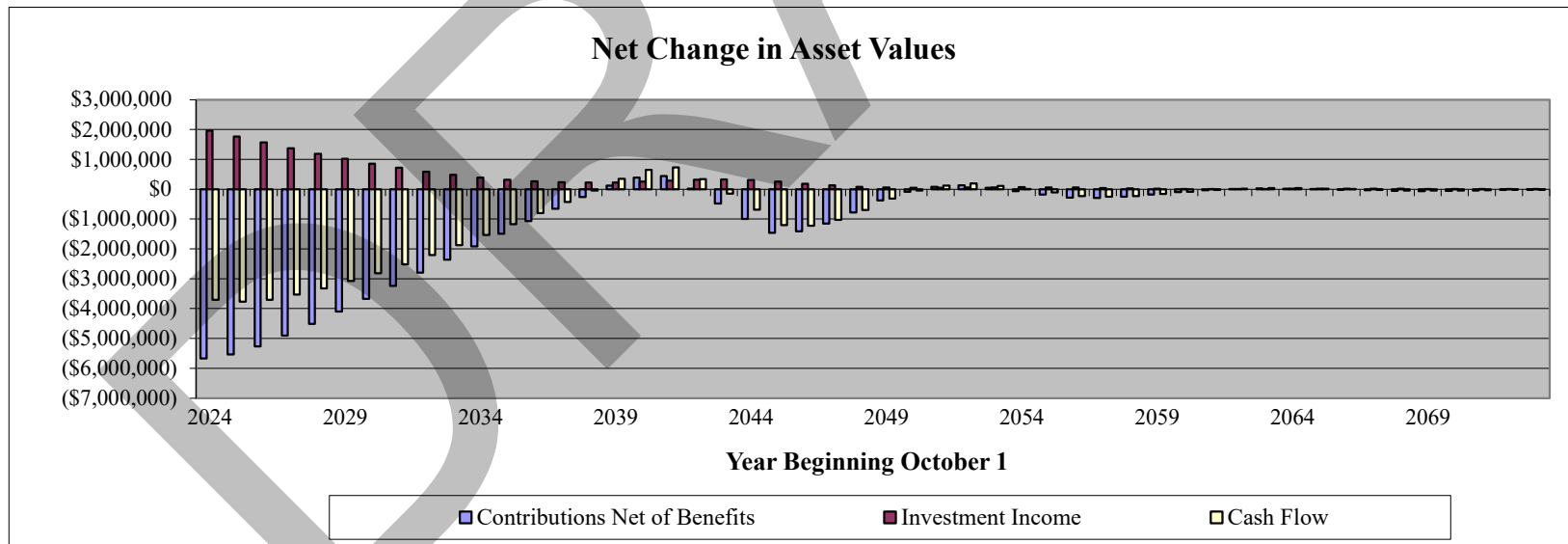
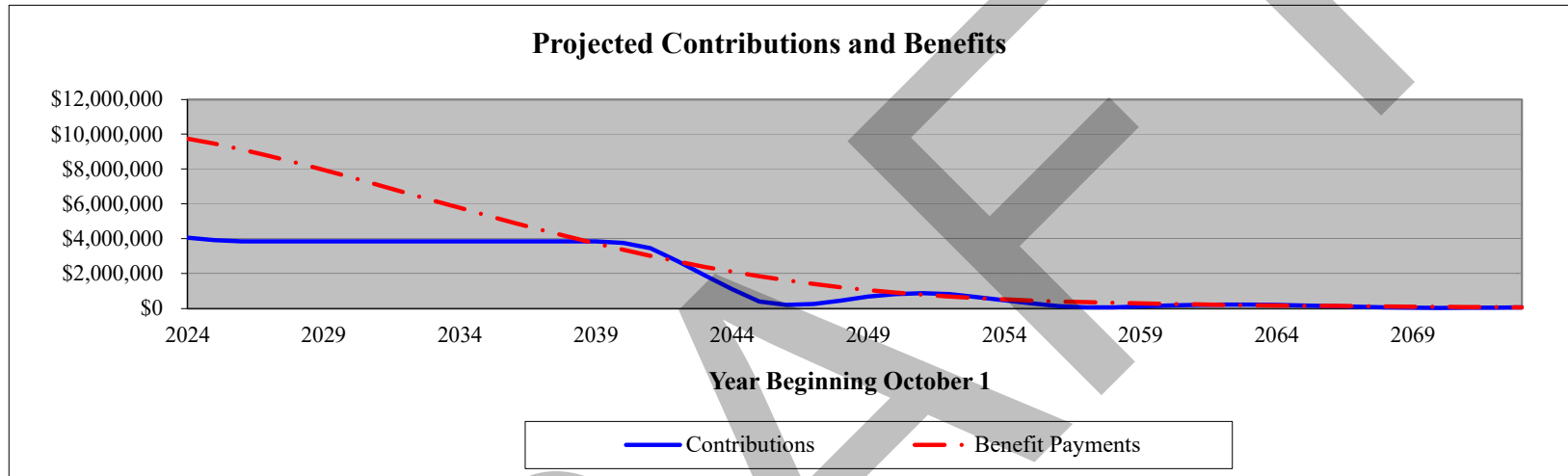
**Cash Flow Projection  
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2024	\$1,253,350,551	\$38,573,004	0.00307	\$4,069,525	\$9,741,349	\$1,967,628	(\$3,704,196)	\$34,868,809	2025
2025	1,253,350,551	34,868,809	0.00307	3,916,720	9,450,056	1,767,654	(3,765,682)	31,103,126	2026
2026	1,253,350,551	31,103,126	0.00307	3,847,786	9,117,125	1,567,705	(3,701,634)	27,401,492	2027
2027	1,253,350,551	27,401,492	0.00307	3,847,786	8,751,265	1,374,041	(3,529,438)	23,872,053	2028
2028	1,253,350,551	23,872,053	0.00307	3,847,786	8,359,231	1,190,559	(3,320,886)	20,551,168	2029
2029	1,253,350,551	20,551,168	0.00307	3,847,786	7,947,217	1,019,089	(3,080,342)	17,470,826	2030
2030	1,253,350,551	17,470,826	0.00307	3,847,786	7,520,952	861,235	(2,811,931)	14,658,894	2031
2031	1,253,350,551	14,658,894	0.00307	3,847,786	7,085,640	718,390	(2,519,464)	12,139,431	2032
2032	1,253,350,551	12,139,431	0.00307	3,847,786	6,645,919	591,750	(2,206,383)	9,933,048	2033
2033	1,253,350,551	9,933,048	0.00307	3,847,786	6,205,875	482,338	(1,875,751)	8,057,297	2034
2038	1,253,350,551	4,126,560	0.00307	3,847,786	4,108,375	219,891	(40,698)	4,085,862	2039
2043	1,253,350,551	6,157,569	0.00190	1,907,249	2,383,852	325,735	(150,868)	6,006,700	2044
2048	1,253,350,551	1,867,333	0.00097	439,265	1,215,505	81,642	(694,598)	1,172,734	2049
2053	1,253,350,551	1,131,387	0.00047	641,056	593,032	63,529	111,553	1,242,940	2054
2058	1,253,350,551	662,142	0.00025	62,333	316,868	29,512	(225,023)	437,119	2059
2063	1,253,350,551	191,287	0.00015	213,065	187,389	11,217	36,893	228,180	2064
2068	1,253,350,551	268,331	0.00009	53,266	109,806	13,224	(43,316)	225,015	2069
2073	1,253,350,551	79,155	0.00005	50,837	57,944	4,161	(2,946)	76,209	2074



# Mississippi Municipal Retirement Systems City of Jackson

## 50 Year Cash Flow Projection Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems  
City of Laurel**

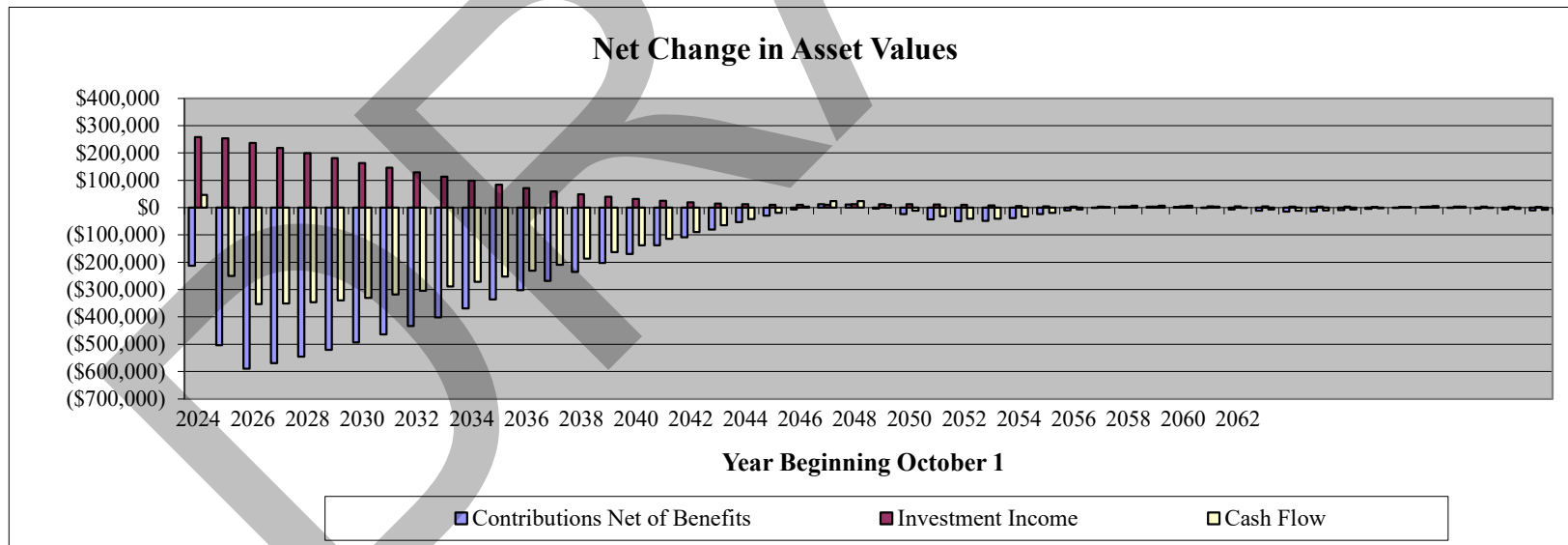
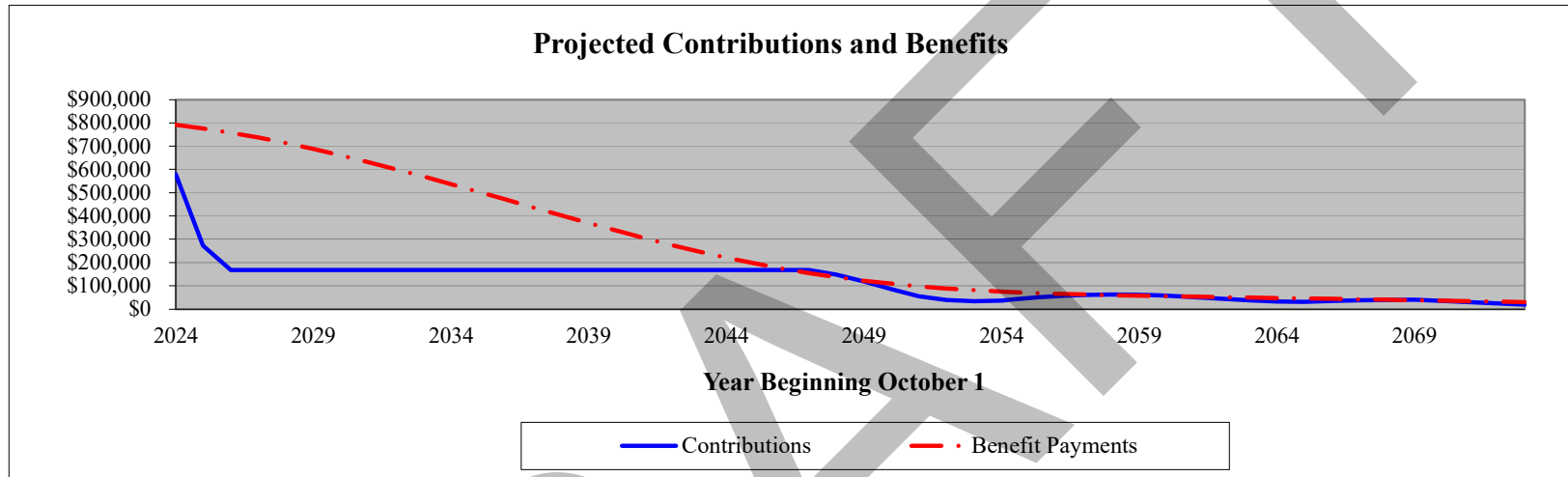
**Cash Flow Projection  
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2024	\$226,039,433	\$4,804,059	0.00074	\$579,673	\$792,034	\$258,462	\$46,101	\$4,850,161	2025
2025	226,039,433	4,850,161	0.00074	272,378	776,056	253,093	(250,585)	4,599,576	2026
2026	226,039,433	4,599,576	0.00074	167,269	757,591	236,960	(353,362)	4,246,214	2027
2027	226,039,433	4,246,214	0.00074	167,269	736,679	218,093	(351,317)	3,894,897	2028
2028	226,039,433	3,894,897	0.00074	167,269	713,427	199,401	(346,757)	3,548,141	2029
2029	226,039,433	3,548,141	0.00074	167,269	688,003	181,019	(339,715)	3,208,426	2030
2030	226,039,433	3,208,426	0.00074	167,269	660,629	163,078	(330,282)	2,878,144	2031
2031	226,039,433	2,878,144	0.00074	167,269	631,557	145,701	(318,587)	2,559,557	2032
2032	226,039,433	2,559,557	0.00074	167,269	601,051	129,006	(304,776)	2,254,781	2033
2033	226,039,433	2,254,781	0.00074	167,269	569,373	113,103	(289,001)	1,965,780	2034
2038	226,039,433	1,001,170	0.00074	167,269	402,503	48,682	(186,552)	814,618	2039
2043	226,039,433	310,359	0.00074	167,269	247,237	14,900	(65,068)	245,291	2044
2048	226,039,433	211,600	0.00061	148,340	136,994	11,946	23,292	234,892	2049
2053	226,039,433	161,333	0.00036	32,893	80,990	7,568	(40,529)	120,804	2054
2058	226,039,433	63,602	0.00026	63,061	59,379	3,598	7,280	70,882	2059
2063	226,039,433	86,577	0.00022	38,063	49,148	4,461	(6,624)	79,953	2064
2068	226,039,433	49,874	0.00018	39,262	39,722	2,731	2,271	52,145	2069
2073	226,039,433	56,246	0.00013	19,041	29,513	2,809	(7,663)	48,583	2074



# Mississippi Municipal Retirement Systems City of Laurel

## 50 Year Cash Flow Projection Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems  
City of McComb**

**Cash Flow Projection**

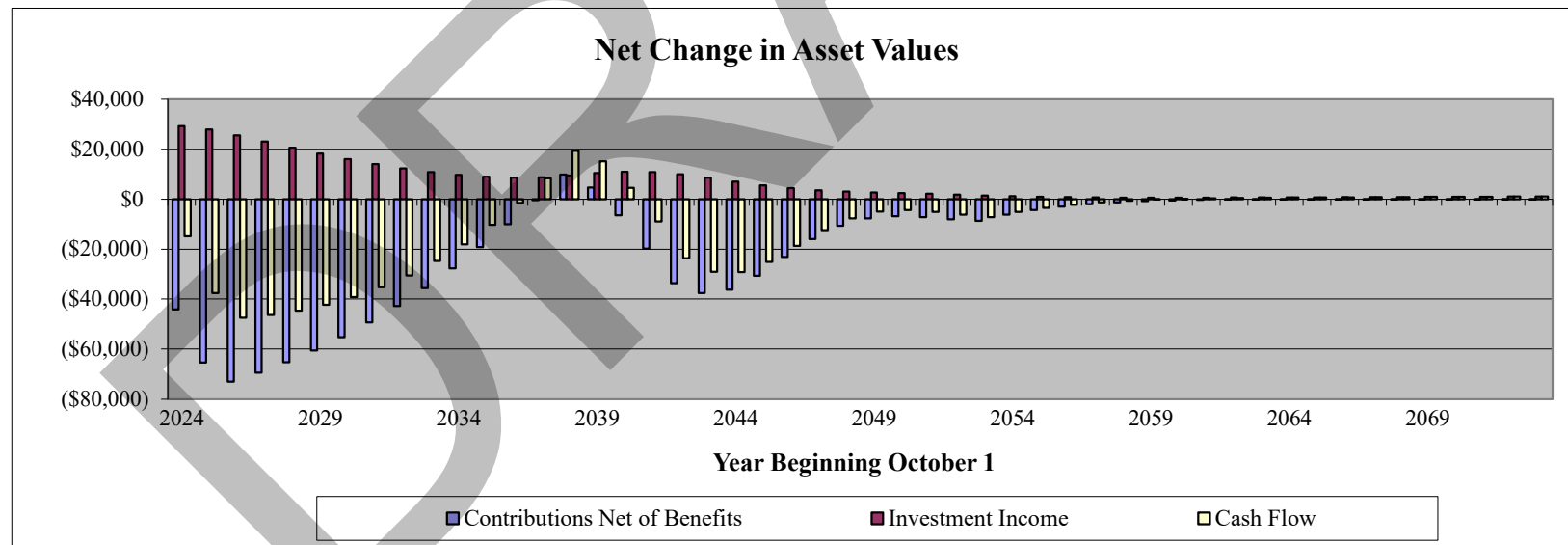
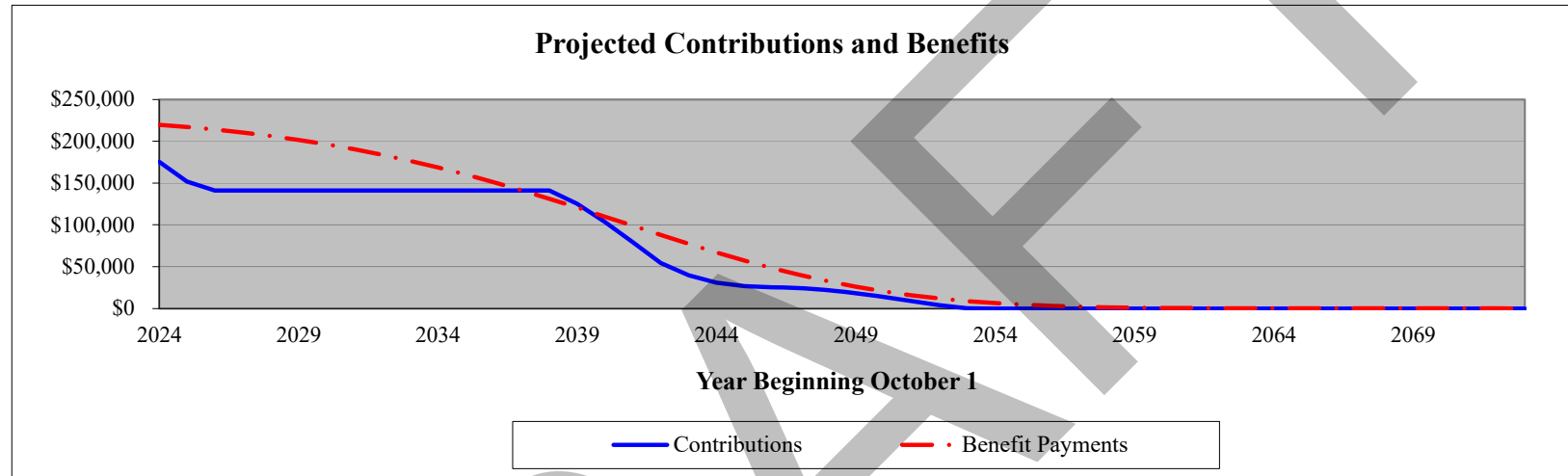
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2024	\$110,059,087	\$552,638	0.00128	\$175,508	\$219,639	\$29,198	(\$14,933)	\$537,706	2025
2025	110,059,087	537,706	0.00128	151,606	216,983	27,800	(37,577)	500,129	2026
2026	110,059,087	500,129	0.00128	140,876	213,877	25,526	(47,475)	452,654	2027
2027	110,059,087	452,654	0.00128	140,876	210,276	23,013	(46,387)	406,266	2028
2028	110,059,087	406,266	0.00128	140,876	206,141	20,574	(44,691)	361,576	2029
2029	110,059,087	361,576	0.00128	140,876	201,440	18,243	(42,321)	319,255	2030
2030	110,059,087	319,255	0.00128	140,876	196,147	16,059	(39,212)	280,043	2031
2031	110,059,087	280,043	0.00128	140,876	190,238	14,063	(35,299)	244,744	2032
2032	110,059,087	244,744	0.00128	140,876	183,687	12,299	(30,512)	214,232	2033
2033	110,059,087	214,232	0.00128	140,876	176,479	10,817	(24,786)	189,447	2034
2038	110,059,087	168,000	0.00119	140,876	131,061	9,506	19,321	187,321	2039
2043	110,059,087	174,264	0.00070	39,634	77,229	8,564	(29,031)	145,233	2044
2048	110,059,087	59,680	0.00030	21,830	32,472	2,994	(7,648)	52,032	2049
2053	110,059,087	31,238	0.00008	32	8,680	1,483	(7,165)	24,073	2054
2058	110,059,087	12,002	0.00001	0	1,294	625	(669)	11,333	2059
2063	110,059,087	11,980	0.00000	0	97	656	559	12,539	2064
2068	110,059,087	15,415	0.00000	0	3	848	845	16,259	2069
2073	110,059,087	20,138	0.00000	0	0	1,108	1,108	21,246	2074



# Mississippi Municipal Retirement Systems City of McComb

## 50 Year Cash Flow Projection Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems  
City of Meridian**

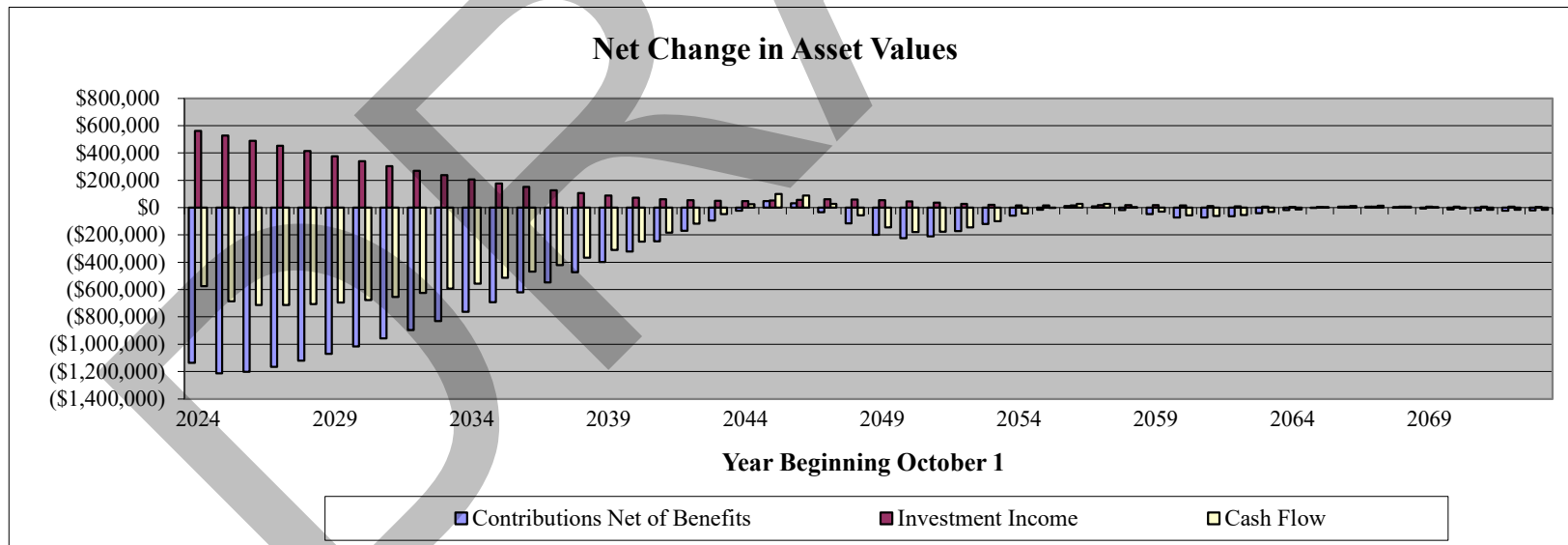
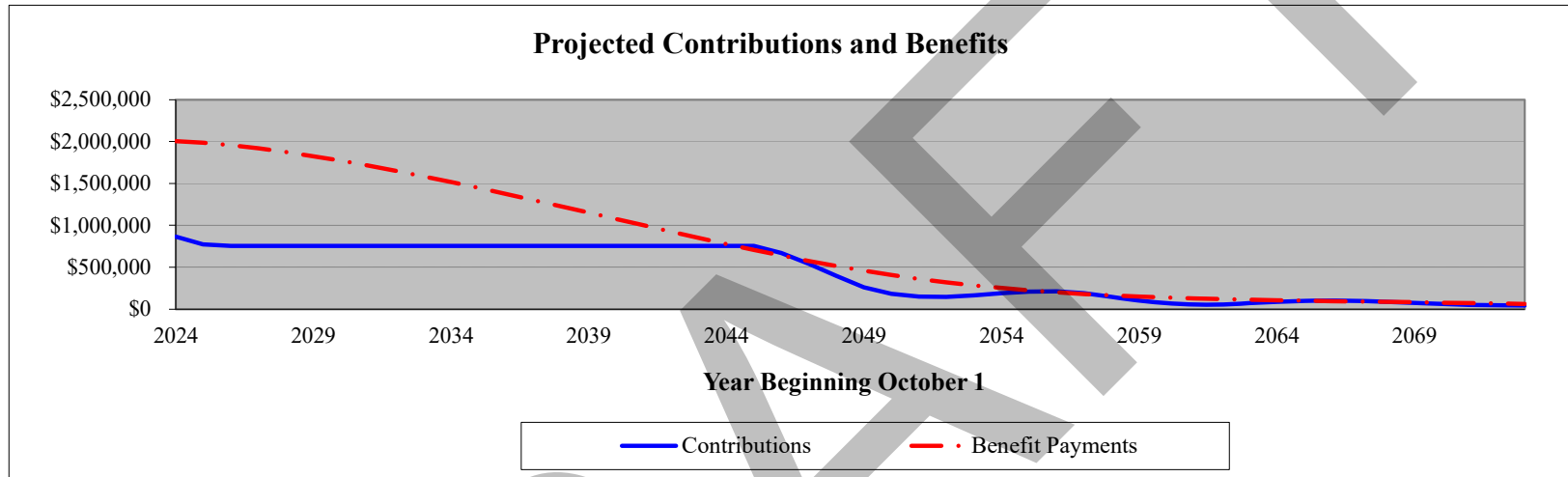
**Cash Flow Projection  
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2024	\$374,469,534	\$10,768,447	0.00201	\$866,389	\$2,003,804	\$561,404	(\$576,011)	\$10,192,436	2025
2025	374,469,534	10,192,436	0.00201	770,471	1,984,083	527,656	(685,956)	9,506,480	2026
2026	374,469,534	9,506,480	0.00201	752,684	1,955,124	490,232	(712,208)	8,794,272	2027
2027	374,469,534	8,794,272	0.00201	752,684	1,918,097	452,065	(713,348)	8,080,924	2028
2028	374,469,534	8,080,924	0.00201	752,684	1,874,143	414,023	(707,436)	7,373,488	2029
2029	374,469,534	7,373,488	0.00201	752,684	1,824,329	376,466	(695,179)	6,678,309	2030
2030	374,469,534	6,678,309	0.00201	752,684	1,769,592	339,716	(677,192)	6,001,117	2031
2031	374,469,534	6,001,117	0.00201	752,684	1,710,723	304,068	(653,971)	5,347,146	2032
2032	374,469,534	5,347,146	0.00201	752,684	1,648,387	269,791	(625,912)	4,721,233	2033
2033	374,469,534	4,721,233	0.00201	752,684	1,583,117	237,137	(593,296)	4,127,937	2034
2038	374,469,534	2,166,989	0.00201	752,684	1,225,646	106,352	(366,610)	1,800,379	2039
2043	374,469,534	941,607	0.00201	752,684	848,617	49,186	(46,747)	894,860	2044
2048	374,469,534	1,135,096	0.00137	396,734	512,990	59,276	(56,980)	1,078,116	2049
2053	374,469,534	433,616	0.00075	162,500	282,331	20,598	(99,233)	334,383	2054
2058	374,469,534	344,815	0.00044	144,487	162,936	18,464	15	344,829	2059
2063	374,469,534	145,343	0.00030	72,456	112,031	6,920	(32,655)	112,688	2064
2068	374,469,534	127,969	0.00023	85,785	85,130	7,056	7,711	135,680	2069
2073	374,469,534	98,608	0.00016	41,948	61,675	4,888	(14,839)	83,770	2074



# Mississippi Municipal Retirement Systems City of Meridian

## 50 Year Cash Flow Projection Based on Valuation Assumptions







Mississippi Municipal Retirement Systems  
City of Natchez

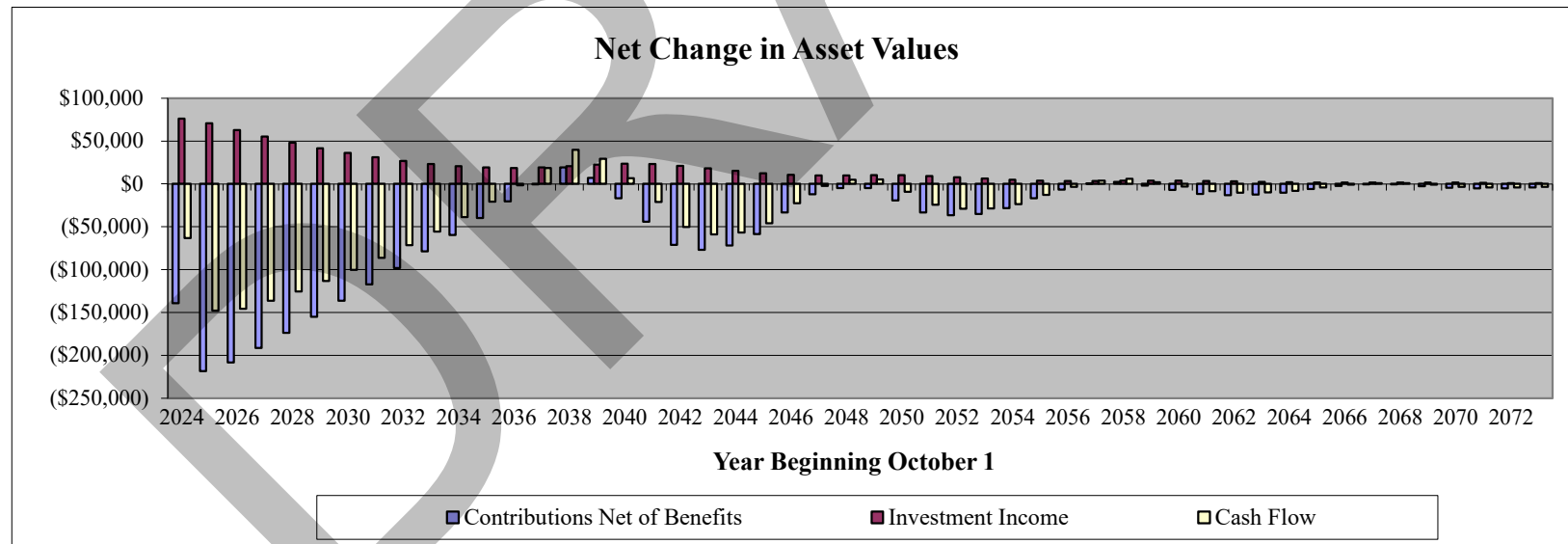
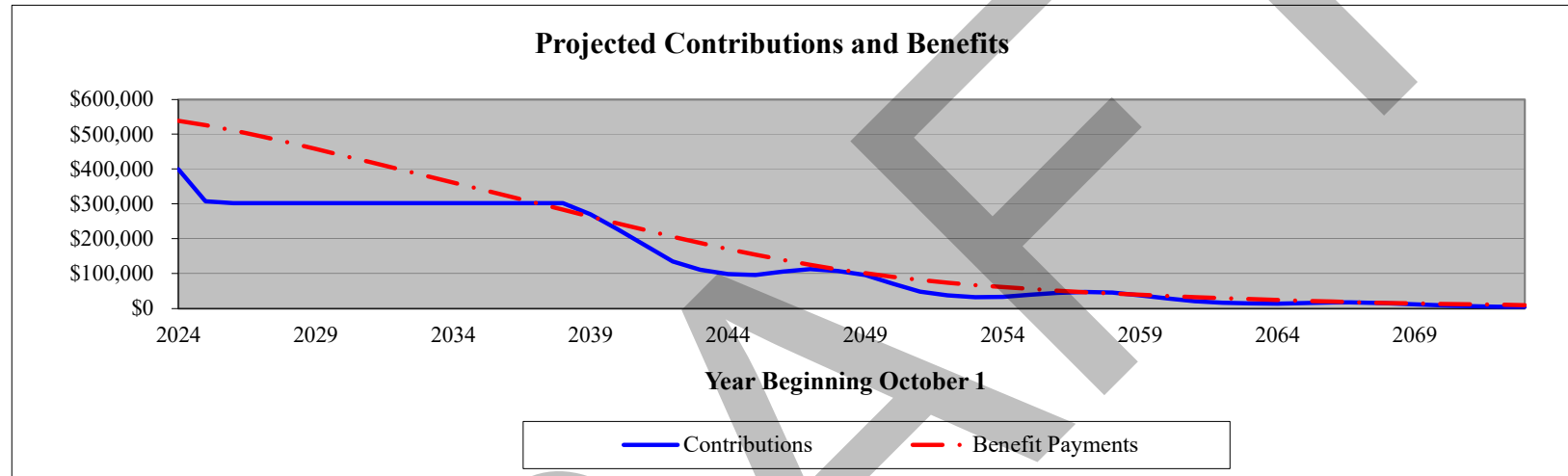
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$258,346,030	\$1,453,936	0.00117	\$399,467	\$538,927	\$76,183	(\$63,277)	\$1,390,659	2025
2025	258,346,030	1,390,659	0.00117	307,432	525,904	70,559	(147,913)	1,242,745	2026
2026	258,346,030	1,242,745	0.00117	302,265	510,641	62,697	(145,679)	1,097,066	2027
2027	258,346,030	1,097,066	0.00117	302,265	493,822	55,141	(136,416)	960,650	2028
2028	258,346,030	960,650	0.00117	302,265	475,980	48,123	(125,592)	835,058	2029
2029	258,346,030	835,058	0.00117	302,265	457,513	41,716	(113,532)	721,527	2030
2030	258,346,030	721,527	0.00117	302,265	438,686	35,983	(100,438)	621,089	2031
2031	258,346,030	621,089	0.00117	302,265	419,654	30,975	(86,414)	534,675	2032
2032	258,346,030	534,675	0.00117	302,265	400,492	26,742	(71,485)	463,190	2033
2033	258,346,030	463,190	0.00117	302,265	381,199	23,334	(55,600)	407,590	2034
2038	258,346,030	364,763	0.00110	302,265	283,159	20,580	39,686	404,449	2039
2043	258,346,030	368,885	0.00073	110,578	187,699	18,196	(58,925)	309,959	2044
2048	258,346,030	182,103	0.00043	107,207	112,156	9,881	4,932	187,034	2049
2053	258,346,030	129,804	0.00026	31,959	66,998	6,189	(28,850)	100,954	2054
2058	258,346,030	64,863	0.00017	44,990	42,744	3,628	5,874	70,738	2059
2063	258,346,030	50,665	0.00010	13,977	26,547	2,446	(10,124)	40,541	2064
2068	258,346,030	27,742	0.00006	15,040	15,541	1,512	1,011	28,752	2069
2073	258,346,030	15,904	0.00004	5,278	9,592	758	(3,556)	12,349	2074



## Mississippi Municipal Retirement Systems City of Natchez

### 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Pascagoula

Cash Flow Projection

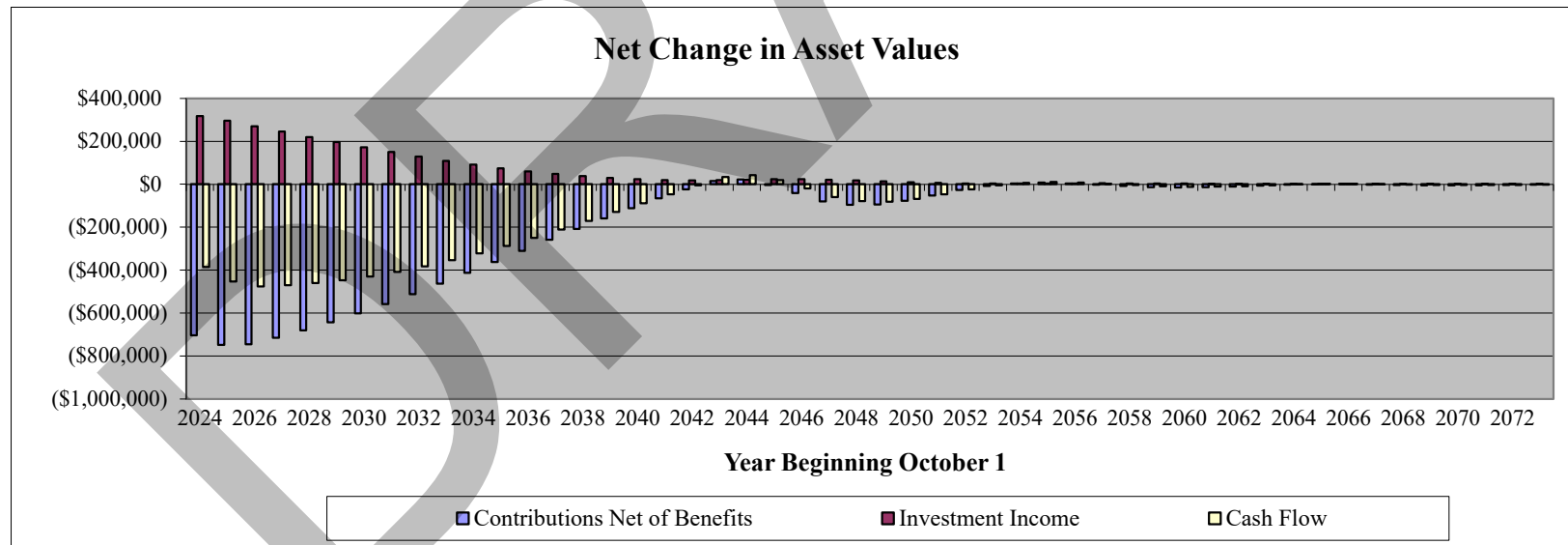
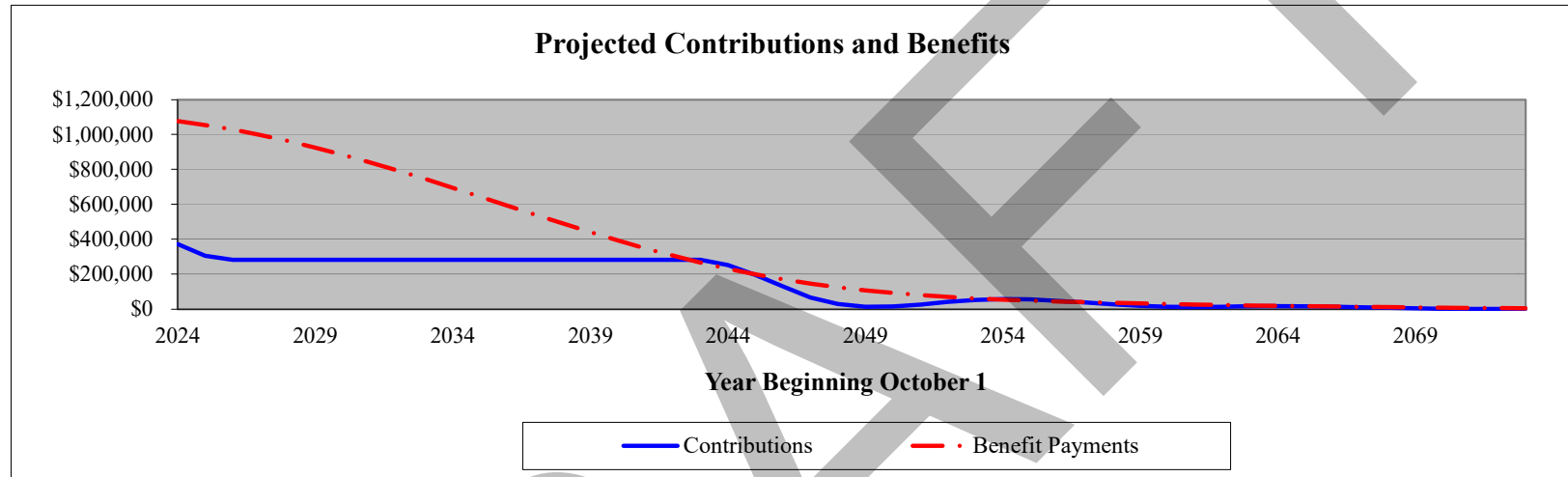
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2024	\$309,592,933	\$6,125,538	0.00091	\$372,450	\$1,076,661	\$317,798	(\$386,413)	\$5,739,125	2025
2025	309,592,933	5,739,125	0.00091	305,723	1,054,564	295,334	(453,507)	5,285,617	2026
2026	309,592,933	5,285,617	0.00091	281,730	1,028,106	270,458	(475,918)	4,809,700	2027
2027	309,592,933	4,809,700	0.00091	281,730	997,546	245,112	(470,704)	4,338,996	2028
2028	309,592,933	4,338,996	0.00091	281,730	963,156	220,156	(461,270)	3,877,725	2029
2029	309,592,933	3,877,725	0.00091	281,730	925,220	195,816	(447,674)	3,430,051	2030
2030	309,592,933	3,430,051	0.00091	281,730	884,055	172,311	(430,014)	3,000,037	2031
2031	309,592,933	3,000,037	0.00091	281,730	840,018	149,855	(408,433)	2,591,604	2032
2032	309,592,933	2,591,604	0.00091	281,730	793,508	128,653	(383,125)	2,208,479	2033
2033	309,592,933	2,208,479	0.00091	281,730	744,967	108,898	(354,339)	1,854,140	2034
2038	309,592,933	781,870	0.00091	281,730	490,291	37,344	(171,217)	610,652	2039
2043	309,592,933	340,181	0.00086	281,730	266,670	19,119	34,179	374,360	2044
2048	309,592,933	356,838	0.00040	29,091	124,856	17,028	(78,737)	278,101	2049
2053	309,592,933	56,443	0.00020	52,508	60,712	2,882	(5,322)	51,121	2054
2058	309,592,933	76,760	0.00011	27,274	35,245	4,006	(3,965)	72,795	2059
2063	309,592,933	29,998	0.00007	14,453	20,624	1,482	(4,689)	25,309	2064
2068	309,592,933	26,574	0.00003	6,116	10,332	1,347	(2,869)	23,705	2069
2073	309,592,933	7,495	0.00001	1,350	3,947	342	(2,255)	5,240	2074



# Mississippi Municipal Retirement Systems City of Pascagoula

## 50 Year Cash Flow Projection Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems  
City of Tupelo**

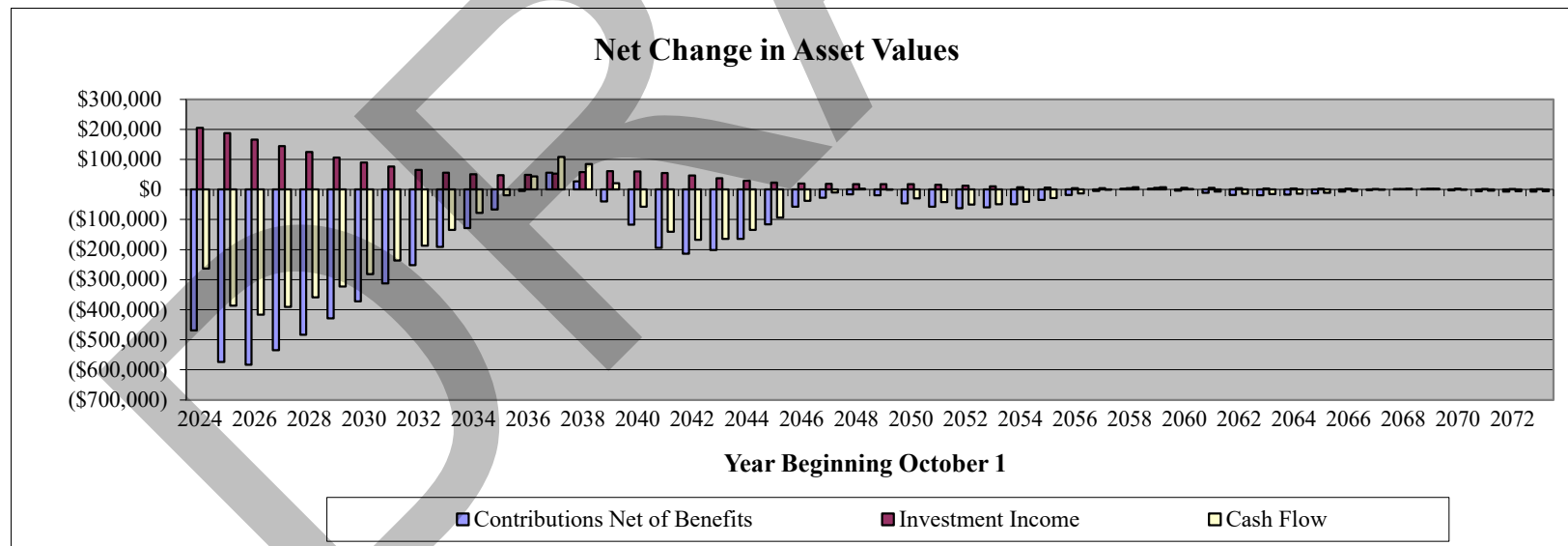
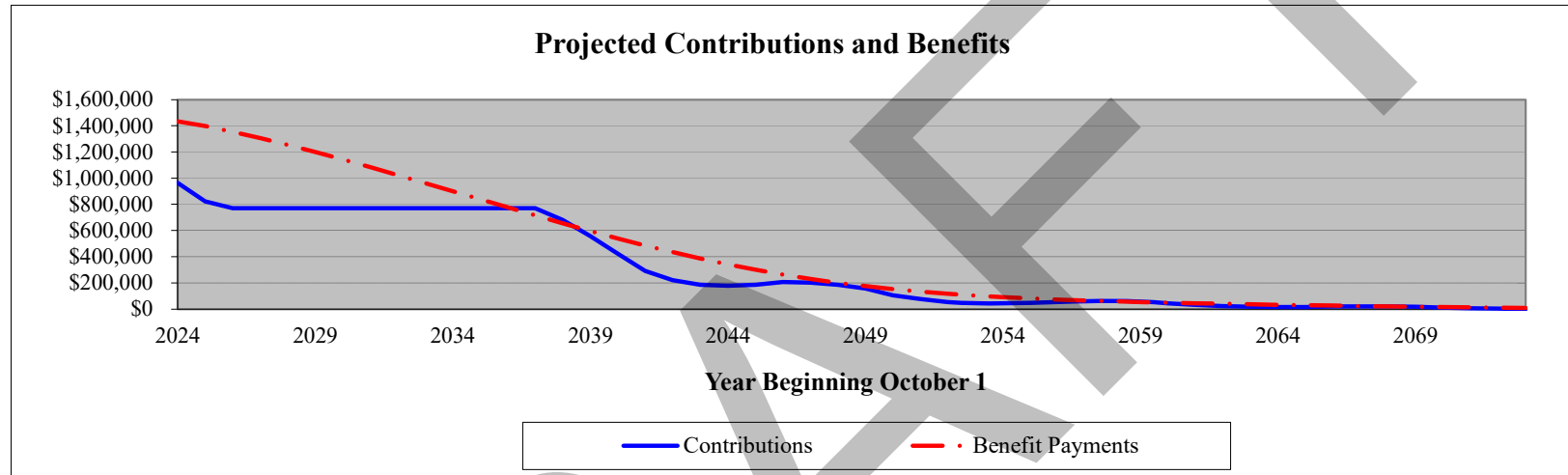
**Cash Flow Projection  
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$607,092,925	\$3,961,444	0.00127	\$965,374	\$1,434,062	\$205,163	(\$263,525)	\$3,697,919	2025
2025	607,092,925	3,697,919	0.00127	822,611	1,396,800	187,807	(386,382)	3,311,538	2026
2026	607,092,925	3,311,538	0.00127	771,008	1,353,975	166,318	(416,649)	2,894,889	2027
2027	607,092,925	2,894,889	0.00127	771,008	1,306,419	144,692	(390,719)	2,504,170	2028
2028	607,092,925	2,504,170	0.00127	771,008	1,254,939	124,599	(359,332)	2,144,838	2029
2029	607,092,925	2,144,838	0.00127	771,008	1,200,269	106,319	(322,942)	1,821,896	2030
2030	607,092,925	1,821,896	0.00127	771,008	1,143,071	90,109	(281,954)	1,539,942	2031
2031	607,092,925	1,539,942	0.00127	771,008	1,083,937	76,206	(236,723)	1,303,218	2032
2032	607,092,925	1,303,218	0.00127	771,008	1,023,393	64,829	(187,556)	1,115,662	2033
2033	607,092,925	1,115,662	0.00127	771,008	961,907	56,182	(134,717)	980,946	2034
2038	607,092,925	1,035,711	0.00108	681,259	654,765	57,683	84,177	1,119,888	2039
2043	607,092,925	775,238	0.00064	184,372	385,559	37,180	(164,007)	611,232	2044
2048	607,092,925	336,021	0.00033	184,063	199,962	18,050	2,151	338,172	2049
2053	607,092,925	215,421	0.00017	42,723	102,589	10,224	(49,642)	165,779	2054
2058	607,092,925	81,803	0.00010	61,374	58,747	4,570	7,197	89,000	2059
2063	607,092,925	77,152	0.00006	16,502	35,967	3,715	(15,750)	61,402	2064
2068	607,092,925	30,849	0.00003	19,475	19,348	1,700	1,827	32,676	2069
2073	607,092,925	23,955	0.00001	0	7,312	1,119	(6,193)	17,761	2074



# Mississippi Municipal Retirement Systems City of Tupelo

## 50 Year Cash Flow Projection Based on Valuation Assumptions





Mississippi Municipal Retirement Systems  
City of Vicksburg

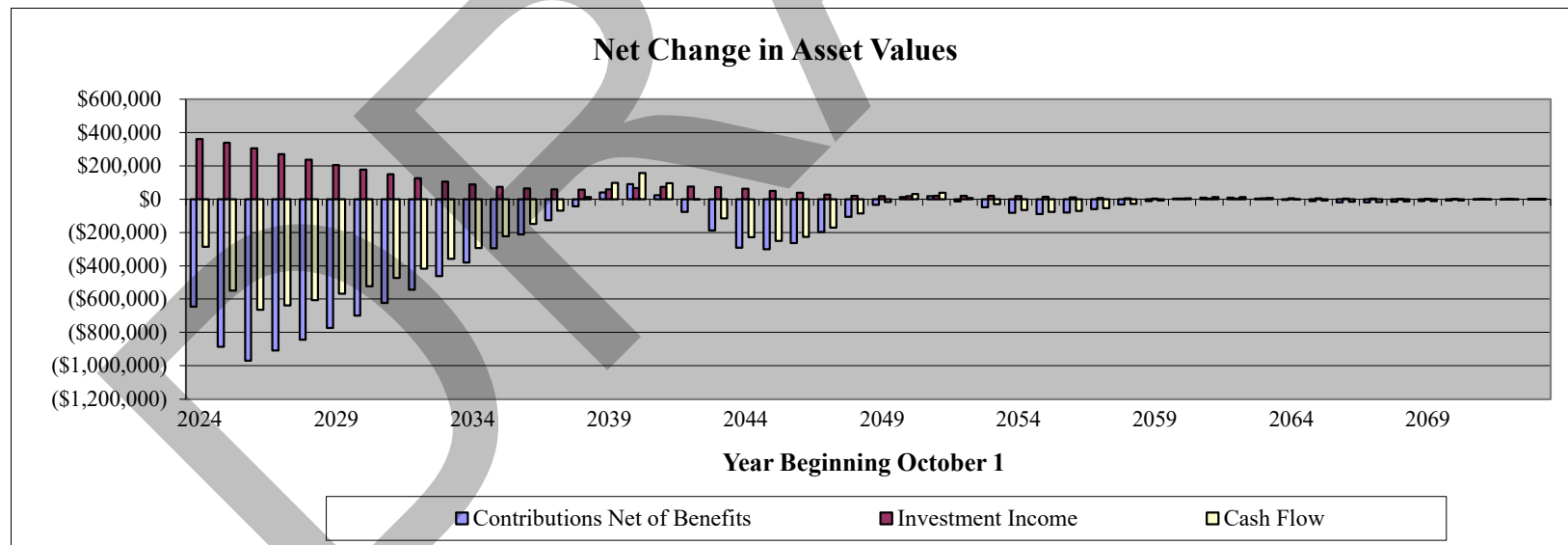
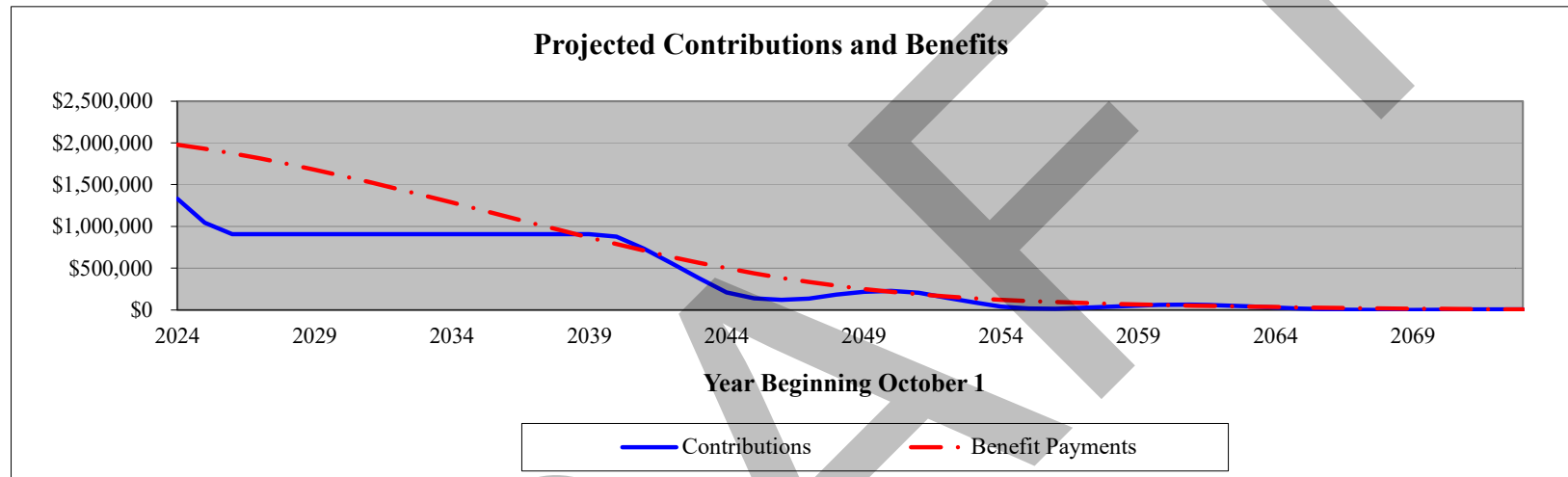
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2024	\$533,298,230	\$6,862,070	0.00170	\$1,333,645	\$1,980,006	\$359,877	(\$286,484)	\$6,575,586	2025
2025	533,298,230	6,575,586	0.00170	1,043,931	1,931,057	337,588	(549,538)	6,026,048	2026
2026	533,298,230	6,026,048	0.00170	906,607	1,875,918	305,133	(664,178)	5,361,869	2027
2027	533,298,230	5,361,869	0.00170	906,607	1,815,237	270,250	(638,380)	4,723,489	2028
2028	533,298,230	4,723,489	0.00170	906,607	1,749,684	236,918	(606,159)	4,117,330	2029
2029	533,298,230	4,117,330	0.00170	906,607	1,679,893	205,472	(567,814)	3,549,516	2030
2030	533,298,230	3,549,516	0.00170	906,607	1,606,440	176,236	(523,597)	3,025,919	2031
2031	533,298,230	3,025,919	0.00170	906,607	1,529,872	149,515	(473,750)	2,552,169	2032
2032	533,298,230	2,552,169	0.00170	906,607	1,450,725	125,606	(418,512)	2,133,657	2033
2033	533,298,230	2,133,657	0.00170	906,607	1,369,521	104,791	(358,123)	1,775,534	2034
2038	533,298,230	1,042,205	0.00170	906,607	950,028	56,143	12,722	1,054,928	2039
2043	533,298,230	1,402,651	0.00106	377,224	564,246	72,072	(114,950)	1,287,701	2044
2048	533,298,230	412,181	0.00054	182,068	287,573	19,807	(85,698)	326,483	2049
2053	533,298,230	383,116	0.00026	89,272	138,558	19,734	(29,552)	353,564	2054
2058	533,298,230	86,415	0.00013	38,907	71,799	3,860	(29,032)	57,383	2059
2063	533,298,230	76,574	0.00007	40,090	37,847	4,272	6,515	83,088	2064
2068	533,298,230	43,303	0.00003	0	15,853	1,952	(13,901)	29,401	2069
2073	533,298,230	7,501	0.00001	4,730	4,142	428	1,016	8,516	2074



# Mississippi Municipal Retirement Systems City of Vicksburg

## 50 Year Cash Flow Projection Based on Valuation Assumptions







Mississippi Municipal Retirement Systems  
City of Yazoo City

Cash Flow Projection

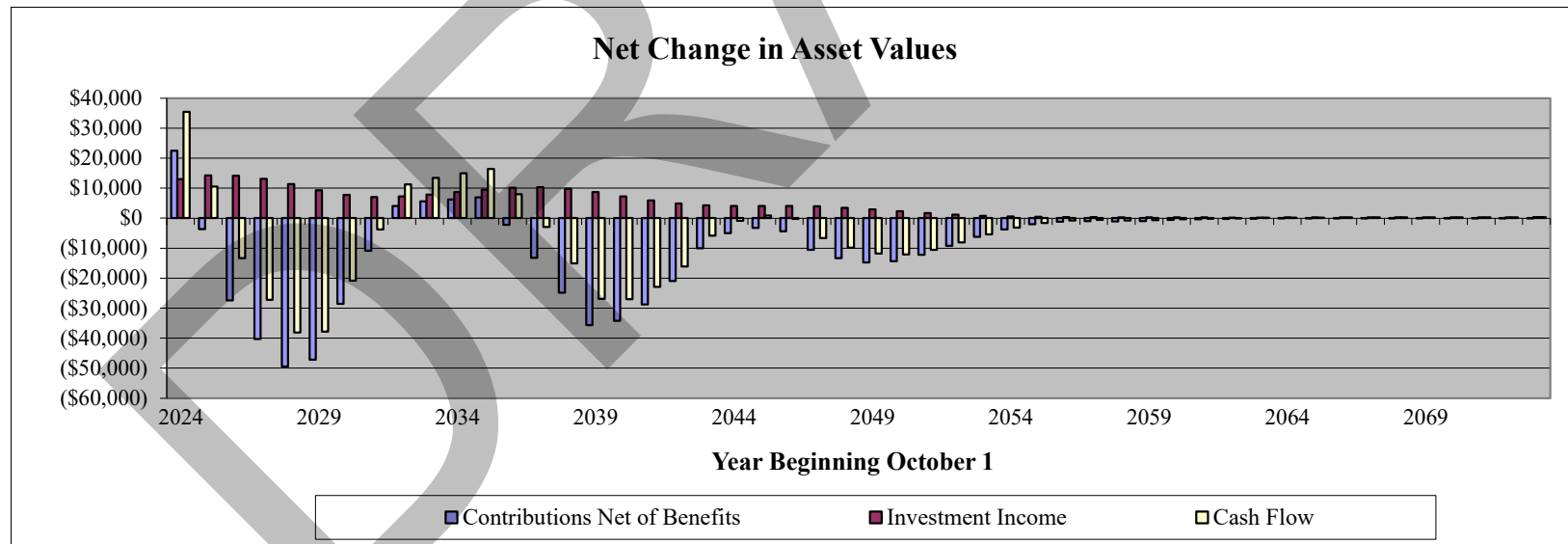
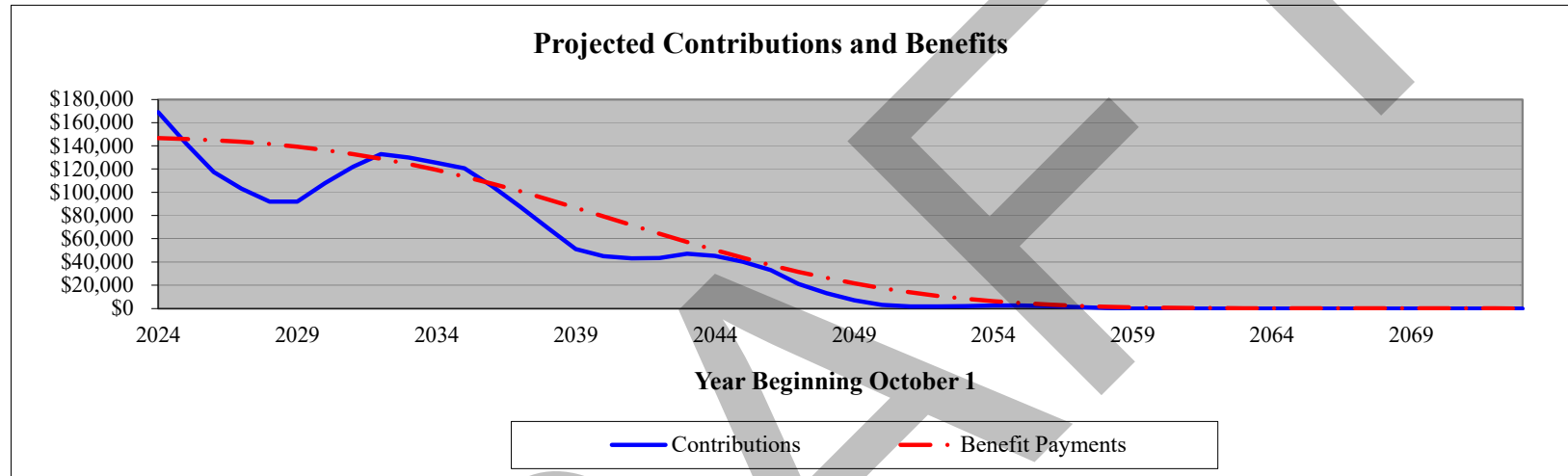
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2024	\$55,937,302	\$224,916	0.00238	\$169,097	\$146,645	\$12,980	\$35,432	\$260,348	2025
2025	55,937,302	260,348	0.00238	142,221	145,927	14,219	10,513	270,860	2026
2026	55,937,302	270,860	0.00238	117,381	144,863	14,152	(13,330)	257,530	2027
2027	55,937,302	257,530	0.00238	103,116	143,411	13,071	(27,224)	230,307	2028
2028	55,937,302	230,307	0.00238	92,019	141,527	11,324	(38,184)	192,123	2029
2029	55,937,302	192,123	0.00238	92,019	139,171	9,287	(37,865)	154,258	2030
2030	55,937,302	154,258	0.00238	107,769	136,304	7,710	(20,825)	133,432	2031
2031	55,937,302	133,432	0.00238	122,034	132,891	7,044	(3,813)	129,620	2032
2032	55,937,302	129,620	0.00230	132,951	128,909	7,239	11,281	140,901	2033
2033	55,937,302	140,901	0.00222	129,904	124,352	7,900	13,452	154,352	2034
2038	55,937,302	190,659	0.00168	69,019	93,909	9,811	(15,079)	175,580	2039
2043	55,937,302	82,586	0.00102	47,096	57,161	4,269	(5,796)	76,790	2044
2048	55,937,302	69,702	0.00047	12,953	26,274	3,472	(9,849)	59,853	2049
2053	55,937,302	17,323	0.00015	1,981	8,219	784	(5,454)	11,870	2054
2058	55,937,302	5,663	0.00003	391	1,477	282	(804)	4,859	2059
2063	55,937,302	3,529	0.00000	0	127	191	64	3,593	2064
2068	55,937,302	4,294	0.00000	0	5	236	231	4,525	2069
2073	55,937,302	5,601	0.00000	0	0	308	308	5,909	2074



# Mississippi Municipal Retirement Systems City of Yazoo City

## 50 Year Cash Flow Projection Based on Valuation Assumptions



# Funding Policy for PERS

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The purpose of this funding policy is to state the overall funding goals and objectives for the Public Employees' Retirement System of Mississippi (PERS) and to document both the metrics that will be used to measure progress toward achieving those goals and the methods and assumptions employed to develop those metrics.

The employer contribution rate recommended by the Board for PERS will be based on the actuarially determined contribution (ADC) as reflected by the annual valuation report using the assumptions and methods outlined in this policy.

## **I. Funding Goals and Objectives**

The objective in requiring employer and member contributions to PERS is to accumulate sufficient assets during a member's employment to fully finance the benefits the member will receive in retirement. In meeting this objective, PERS will strive to meet the following goals:

- Preserve the defined benefit structure for providing lifetime benefits to the PERS membership and eligible beneficiaries;
- Develop a pattern of contribution rates expressed as a percentage of employer payroll and measured by valuations prepared in accordance with applicable state laws and the principles of practice prescribed by the Actuarial Standards Board;
- Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100 percent funded;
- Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of this policy using a "Signal Light" approach to assist the Board in determining the status of the plan;
- Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, § 272A, of the Mississippi Constitution.

## II. Metrics

To track progress in achieving the outlined funding goals and objectives, certain metrics will be measured annually in conjunction with information provided in the actuarial valuation and projection report. As part of the annual valuation and projection report, each metric will be calculated and assigned a “Signal Light” with the following definitions:

Status	Definition
Green	Plan passes metric and PERS’ funding goals and objectives are achieved
Yellow	Plan passes metric but a warning is issued that negative experience may lead to failing status
Red	Plan fails metric

Employer contribution rate increases recommended by the Board would be suggested to be effective for the July 1<sup>st</sup> which occurs 18 months following the completion of the projection report (e.g., if the projection report in 2024 deems an increase to be considered then it would be effective for July 1, 2026).

The following metrics will be measured:

- **Funded Ratio** – Funded Ratio is defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100 percent funded ratio.

The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 80% in 2047
Yellow	Funded Ratio between 65% and 80% in 2047
Red	Funded Ratio below 65% in 2047

- **Cash flow as a percentage of assets** – Cash flow as a percentage of assets is defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning-year market value of assets. This percentage will fluctuate from year to year, so the Signal Light testing of the net cash flow percentage will be tested over the entire

projection period.

The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period

### III. Assumptions and Methods

Each year, the actuary will perform an actuarial valuation and projection report for funding purposes. During the process, the actuary shall calculate all the metrics listed in Section II of this funding policy and the PERS' Signal Light status for each metric. The following three major components of a funding valuation will be used:

- **Actuarial Cost Method** – This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with projected benefits. The Entry Age Normal Cost Method (EAN) is to be used for determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the Actuarial Determined Contribution (ADC).
- **Asset Valuation Method** – This component dictates the method by which the asset value, used in the determination of the Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio, is determined. The asset valuation method to be used shall be a five-year smoothed market value of assets. The difference between the actual market value investment returns and the expected market investment returns is recognized equally over a five-year period.
- **Amortization Method** – This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the accrued liability and the actuarial value of assets is reduced. For purposes of calculating the ADC, the following amortization method assumptions are used:
  - I. Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.

- II. The amortization payment will be determined on a level percentage of pay basis.
  - III. The length of the amortization periods will be as follows:
    - a. Existing UAAL on June 30, 2018 – 30 years.
    - b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.
  - IV. If any future annual actuarial valuation indicates that PERS has a negative UAAL, the ADC shall be set equal to the Normal Cost.
- **Actuarial Assumptions** – The actuarial assumptions are used to develop the annual and projected actuarial metrics, as well as the ADC rates. The actuarial assumptions are derived and proposed by the actuary and adopted by the PERS Board in conformity with the *Actuarial Standards of Practice*. The actuarial assumptions for this funding policy were developed using the experience for the four-year period ending June 30, 2022 (State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2022). The long-term investment return assumption adopted by the PERS Board in conjunction with the experience investigation is 7.00 percent.

#### IV. Governance Policy/Process

Below is a list of specific actuarial and funding related studies, the frequency at which they should be commissioned by the Board and additional responsibilities related to each:

- **Actuarial Valuation (performed annually)** – The Board is responsible for the review of PERS' annual actuarial valuation report, which provides the annual funded ratio and the calculation of the ADC.
- **Projection Report (performed annually)** – The Board is responsible for the review of PERS' 30-year projection report, which will include the actuarial metrics and Signal Light status for each metric over a 30-year period.
- **Experience Analysis (performed every two years on a rolling four-year)** – The Board is responsible for ensuring that an experience analysis is performed as prescribed, reviewing the results of the study, and approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plan.
- **Actuarial Audit (performed at least every five years)** – The Board is responsible for the review of an audit report performed by an independent actuarial firm to provide a

critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.

- **Additional Independent Actuarial Assessments** – When the Board recommends an increase to the employer contribution rate, the recommendation will be accompanied by at least two independent actuarial assessments in accordance with state law. Future annual valuations and separate periodic actuarial audits may suffice for this purpose.
- **Funding Policy Review (in conjunction with relevant reports)** – The Board is responsible for the review of this policy in conjunction with the annual valuation and projection report and biennially with the experience study. Other periodic reviews during the year should be conducted as warranted.

## V. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Actuarial Determined Contribution (ADC):** The potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. The ADC may or may not be the amount actually paid by the plan sponsor or other contributing entity.
- **Asset Values:**
  - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
  - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.

- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
  - **Actuarial Value Funded Ratio:** The actuarial value funded ratio is the ratio of the AVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. PERS' annual valuation date is June 30.

**Source:** § 25-11-119(8) and (9) | **Effective/Revised:** 10/24/2006, 10/23/2012, 4/22/2014, 2/28/2017, 6/26/2018, 10/22/2019, 08/24/2021, 02/23/2022, 4/24/2024, 12/18/2024



## Funding Policy for PERS

---

The purpose of ~~the~~this funding policy is to state the overall funding goals and objectives for the Public Employees' Retirement System of Mississippi (PERS), and to document both the metrics that will be used to measure progress toward achieving those goals, and the methods and assumptions employed to develop ~~the~~those metrics.

The employer contribution rate recommended by the Board for PERS will be based on the actuarial<sup>1</sup> determined contribution (ADC) as reflected by the annual valuation report using the assumptions and methods outlined in this policy. ~~set based on the metrics, assumptions and methods outlined in Section II and III of this policy.~~

### I. Funding Goals and Objectives

The objective in requiring employer and member contributions to PERS is to accumulate sufficient assets during a member's employment to fully finance the benefits the member will receive in retirement. In meeting this objective, PERS will strive to meet the following goals:

- Preservation ~~of~~e the defined benefit structure for providing lifetime benefits to the PERS membership and eligible beneficiaries;
- ~~To~~Develop a pattern of contribution rates expressed as a percentage of employer payroll and measured by valuations prepared in accordance with applicable ~~S~~state laws and the principles of practice prescribed by the Actuarial Standards Board;
- ~~Contribution rate stability as a percentage of payroll (Fixed Contribution Rate—FCR);~~
- Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% percent funded;
- Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of this policy using a “Signal Light” approach to assist the Board in determining the status of the plan; ~~whether increases or decreases are needed in the employer contribution rate, and~~
- Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, §§ 272A, of the Mississippi Constitution.

## II. Metrics

To track progress in achieving the outlined funding goals and objectives ~~and to assist the Board in making a determination whether an increase or decrease in the employer contribution rate for PERS should be considered~~, certain metrics will be measured annually in conjunction with information provided in the actuarial valuation and projection report. ~~As part of the annual valuation and projection reports~~, each metric will be calculated and assigned a “Signal Light” with the following definitions:

Status	Definition
Green	Plan passes metric and PERS' funding goals and objectives are achieved
Yellow	Plan passes metric but a warning is issued that negative experience may lead to failing status
Red	Plan fails metric <del>and PERS must consider contribution increases</del>

~~If any one of the metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three metrics back into the Green Signal Light status. The Employer contribution rate increases recommended by the Board would be suggested to be effective for the the July 1<sup>st</sup> which occurs<sup>st</sup>, 18 months following the completion of the projection report (e.g., if the projection report in 2024 deems an increase to be considered, then it would be effective for July 1, 2026).~~

The following metrics will be measured:

- **Funded Ratio** – Funded Ratio is defined as the actuarial value of assets divided by the actuarial accrued liability. ~~One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100 percent funded ratio.~~

The Board sets the Signal Light definition as follows:

Status	Definition
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Green	Funded Ratio above 80% in 2047
Yellow	Funded Ratio between 65% and 80% in 2047
Red	Funded Ratio below 65% in 2047

- **Cash flow as a percentage of assets** – Cash flow as a percentage of assets is defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of ~~beginning~~ beginning-year market value of assets. ~~Over the projection period, I~~ this percentage will fluctuate from year to year, ~~so for the~~ Signal Light testing, ~~of~~ the net cash flow percentage will be tested over the entire projection period ~~will be tested~~.

The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period

- ~~**Actuarially Determined Contribution (ADC)**~~ — ADC is defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of this funding policy:

- ~~1. Actuarial Cost Method~~
- ~~2. Asset Smoothing Method~~
3. Amortization Method

~~The calculation of the ADC will be determined during the actuarial valuation and not during the projection report. The ratio of the ADC to the fixed contribution rate~~

~~(ADC/FCR) as set by this Funding Policy will be tested.~~

~~The Board sets the Signal Light definition as follows:~~

Status	Definition
Green	<del>ADC ratio at or below 100% of fixed contribution rate at valuation date</del>
Yellow	<del>ADC ratio between 100% and 110% of fixed contribution rate at valuation date</del>
Red	<del>ADC ratio above 110% of fixed contribution rate at valuation date</del>

### III. Assumptions and Methods

Each year, the actuary will perform an actuarial valuation and projection report for funding purposes. During the process, the actuary shall calculate all the metrics listed in Section II of this funding policy and the PERS' Signal Light status for each metric. The following three major components of a funding valuation will be used:

- **Actuarial Cost Method** – This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with projected benefits. The Entry Age Normal Cost Method (EAN) is to be used for determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the Actuarial Determined Contribution (ADC).
- **Asset Valuation Method** – This component dictates the method by which the asset value, used in the determination of the Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio, is determined. The asset valuation method to be used shall be a five-year smoothed market value of assets. The difference between the actual market value investment returns and the expected market investment returns is recognized equally over a five-year period.
- **Amortization Method** – This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the accrued liability and the actuarial value of assets is reduced. For purposes of calculating the ADC ~~metric~~, the following amortization method assumptions are used:
  - I. Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.

- II. The amortization payment will be determined on a level percentage of pay basis.
- III. The length of the amortization periods will be as follows:
  - a. Existing UAAL on June 30, 2018 – 30 years.
  - b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.
- IV. If any future annual actuarial valuation indicates that PERS has a negative UAAL, the ADC shall be set equal to the Normal Cost.

• **Actuarial Assumptions** – The actuarial assumptions are used to develop the annual and projected actuarial metrics, as well as the ADC rates. The actuarial assumptions are derived and proposed by the actuary and adopted by the PERS' Board in conformity with the *Actuarial Standards of Practice*. The actuarial assumptions for this funding policy were developed using the experience for the four-year period ending June 30, 2022 (State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2022). The long-term investment return assumption adopted by the PERS' Board in conjunction with the experience investigation is 7.00 percent.

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#### IV. Governance Policy/Process

Below is a list of specific actuarial and funding related studies, the frequency at which they should be commissioned by the Board and additional responsibilities related to each:

• **Actuarial Valuation (performed annually)** – The Board is responsible for the review of PERS' annual actuarial valuation report, which provides the annual funded ratio and the calculation of the ADC.

•

• **Projection Report (performed annually)** – The Board is responsible for the review of PERS' 30-year projection report, which will include the actuarial metrics and Signal Light status for each metric over a 30-year period.

•

• **Experience Analysis (performed every two years on a rolling four-year)** – The Board is responsible for ensuring that an experience analysis is performed as prescribed, reviewing ~~ing~~ the results of the study, and approving the actuarial

assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plan.

- **Actuarial Audit (performed at least every five years)** – The Board is responsible for the review of an audit report performed by an independent-new actuarial firm to provide a critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.
- **Additional Independent Actuarial Assessments** – When the Board recommends an increase to the employer contribution rate, the recommendation will be accompanied by at least two independent actuarial assessments in accordance with state law. Future annual valuations and separate periodic actuarial audits may suffice for this purpose.
- **Funding Policy Review (~~periodically~~in conjunction with relevant reportsformed at least annually)** – The Board is responsible for the ~~periodic~~review of this policy in conjunction with the annual valuation and projection report and bienn-~~but at least annually with following the Valuation and Projection Report and biennially with following the Experience-experience Analysisstudy. Other periodic reviews during the year should be conducted as warranted.~~

## V. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Actuarial Determined Contribution (ADC):** The potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. -The ADC may or may not be the amount actually paid by the plan sponsor or other contributing entity.
- **Asset Values:**

- **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
- **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
  - **Actuarial Value Funded Ratio:** [The actuarial value funded ratio](#) is the ratio of the AVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. -The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. PERS' annual valuation date is June 30.

**Source:** § 25-11-119(8) and (9) | **Effective/Revised:** 10/24/2006, 10/23/2012, 4/22/2014, 2/28/2017, 6/26/2018, 10/22/2019, 08/24/2021, 02/23/2022, 4/24/2024, [12/18/2024](#)

## **Title 27: Personnel**

### **Part 210: PERS, Regulations for Retirement Plans Administered by the Board of Trustees**

#### **Chapter 66: Investment and Pension Advisory Committee**

##### **100 Purpose**

The purpose of this regulation is to establish the Investment and Pension Advisory Committee of the Public Employees' Retirement System of Mississippi by the Board of Trustees for the purpose of providing information and recommendations to the Board relative to the investments or other similar areas of the Public Employees' Retirement System of Mississippi and other systems administered by the Board.

##### **101 Membership on the Investments and Pension Advisory Committee**

The Committee shall consist of three members, who are not retirees or members of a system administered by the Public Employees' Retirement System of Mississippi. Each member shall have at least 10 years of experience in finance, investments, actuarial science, money management, pension administration, or other executive leadership commensurate with an appointment to the committee. Each committee member must act as a fiduciary in their advisory capacity to the Board of Trustees and shall be compensated \$1,000 annually per contractual terms.

Based on one recommendation each from the Governor, Lieutenant Governor, and the Speaker of the House, the Executive Director shall form the Committee with the approval of the Board of Trustees. Terms of office shall be for a period of four (4) years. Service for a portion of an unexpired term shall not count as a full term. The initial appointments for the committee shall be effective July 1, 2025, and run through the end of the current legislative term. Future appointments to the committee shall run parallel with each 4-year election cycle.

##### **102 Selection of Committee Officers**

The Committee shall elect by a majority vote a Chairperson who will serve for a term of one year and shall be eligible for reelection to that position.

##### **103 Committee Meetings**

All meetings shall be at the call of the Chair and should be at least annually. Two members present shall constitute a quorum for the transaction of business for the



Committee. Committee members shall be reimbursed for mileage required to attend official committee meetings in accordance with the Public Employees' Retirement System Travel Policies.

#### **104 Committee Reports to the Board of Trustees**

The Committee shall make oral or written reports, recommendations, or suggestions to the Board of Trustees on an as needed basis, at least annually, and will coordinate its activities through the Executive Director or his or her designee.

#### **105 Filling a vacancy on the Committee**

Any vacancy on the committee shall be declared to the Executive Director at the occurrence of such vacancy. The vacancy shall be filled in a manner similar to the regular appointments outlined in section 101 of this regulation for the unexpired portion of the term of office.

**History: Adopted December 18, 2024.**