



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve



**Report on the Annual Valuation of the
Mississippi Municipal Retirement Systems**

Prepared as of June 30, 2023





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

December 12, 2023

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, 2024. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2023.

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 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, the Board adopted new actuarial assumptions based on the experience investigation for the four-year period ending June 30, 2022. There was no changes to the mortality tables, however, the Board adopted a decrease in the investment return assumption from 7.55% to 7.00% at its August, 2023 meeting.

Since the previous valuation, there was one change made to the benefit provisions. The City of Tupelo granted a 3% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2022.

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.



Board of Trustees
December 12, 2023
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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,

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 - Summary of Principal Results

REPORT ON THE ANNUAL VALUATION OF THE MISSISSIPPI MUNICIPAL RETIREMENT SYSTEMS PREPARED AS OF JUNE 30, 2023

1. This report, prepared as of June 30, 2023, 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, 2023. Please note that the Plan has only retired members remaining.

VALUATION DATE	June 30, 2023	June 30, 2022
Retirees		
Number	1,391	1,444
Annual allowances	\$ 29,355,805	\$ 29,977,629
Accrued Liability	\$ 264,337,047	\$ 265,490,137
Assets		
Market related actuarial value	\$ 129,391,882	\$ 136,245,810
Market value	\$ 124,878,975	\$ 131,677,650
Unfunded Accrued Liability	\$ 134,945,165	\$ 129,244,327
Aggregate Funded Ratio	48.95%	51.32%

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.
5. Schedule B details the actuarial assumptions and methods employed. Since the previous valuation, the following assumption change was made:
 - The investment rate of return assumption was reduced from 7.55% to 7.00% for liabilities and from 6.05% to 5.50% for millage rate calculations.
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 3% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2022.
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	Active/ Retired Ratio	Annual Benefits (\$ in thousands)	Benefits as % of Payroll	Accrued Liability	Valuation Assets	Unfunded Accrued Liability
2014	14	\$727	\$51,953	4.7%	1,890	.01	\$34,723.5	4,776.3%	\$340,385	\$157,970	\$182,415
2015	11	579	52,661	1.4	1,849	.01	34,478.4	5,954.8	341,525	162,616	178,909
2016	8	419	52,375	(0.5)	1,798	.00	34,088.4	8,135.7	330,663	159,160	171,503
2017	6	321	53,541	2.2	1,754	.00	33,751.5	10,514.5	321,747	157,674	164,073
2018	4	200	49,936	(6.7)	1,694	.00	32,997.7	16,498.9	307,456	154,749	152,707
2019	2	95	47,436	(5.0)	1,634	.00	32,423.3	34,129.8	296,006	147,671	148,335
2020	0	0	0	N/A	1,585	.00	31,819.4	N/A	286,436	140,731	145,705
2021	0	0	0	N/A	1,510	.00	30,845.5	N/A	274,426	140,258	134,168
2022	0	0	0	N/A	1,444	.00	29,977.6	N/A	265,490	136,246	129,244
2023	0	0	0	N/A	1,391	.00	29,355.8	N/A	264,337	129,392	134,945



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 1,391 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, 2023 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	5	33	69	\$1,907,071
Clarksdale	22	1	18	41	536,648
Clinton	27	0	4	31	905,033
Columbus	31	2	28	61	1,016,386
Greenville	30	0	26	56	798,200
Greenwood	22	0	18	40	570,429
Gulfport	37	7	27	71	1,665,110
Hattiesburg	86	5	42	133	3,272,793
Jackson	252	3	207	462	10,148,159
Laurel	39	1	24	64	881,931
McComb	9	1	7	17	263,396
Meridian	78	1	48	127	2,076,180
Natchez	19	3	12	34	554,267
Pascagoula	27	3	21	51	1,118,170
Tupelo	39	0	30	69	1,463,711
Vicksburg	23	2	31	56	2,018,076
Yazoo City	7	0	2	9	160,245
Total in MRS	779	34	578	1,391	\$29,355,805



Section III - Computed Employer Contribution Rates

**Mississippi Municipal Retirement Systems
Computed Employer Contribution Rates¹
As of June 30, 2023 for the 2025 Fiscal Year End**

Municipality	Certified Rate for Fiscal Year Ending 9/30/2024	Current Millage Rate for Fiscal Year Ending 9/30/2024	Calculated Rate for Fiscal Year Ending 9/30/2025	Certified Rate² for Fiscal Year Ending 9/30/2025
Biloxi	1.73	1.73	1.65	1.65
Clarksdale	4.77	4.77	4.72	4.72
Clinton	0.84	0.84	0.81	0.81
Columbus	5.38	5.38	3.69	3.69
Greenville	2.21	2.21	2.24	2.24
Greenwood	2.76	2.76	2.33	2.33
Gulfport	0.82	1.23	0.81	0.81
Hattiesburg	2.53	2.53	2.63	2.63
Jackson	3.15	3.15	3.29	3.29
Laurel	1.37	2.60	1.29	1.29
McComb	1.43	1.43	1.67	1.67
Meridian	2.18	2.71	2.20	2.20
Natchez	1.65	2.26	1.25	1.25
Pascagoula	1.39	1.39	1.22	1.22
Tupelo	1.42	1.61	1.39	1.39
Vicksburg	2.75	2.75	2.73	2.73
Yazoo City	3.03	3.03	2.33	2.33

¹ Millage rates applied to assessed property

² 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 Rates

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	2018	2019	2020	2021	2022	Average % Increase
Biloxi	\$579,988,410	\$585,246,074	\$593,305,051	\$639,344,542	\$662,733,865	3.4%
Clarksdale	84,564,374	83,760,178	82,849,209	84,031,457	83,042,644	(0.5)
Clinton	215,682,895	216,824,192	215,400,746	219,766,379	238,190,869	2.5
Columbus	203,048,379	207,384,299	207,520,472	212,207,682	219,835,360	2.0
Greenville	198,137,988	201,216,099	205,375,459	203,364,186	207,650,264	1.2
Greenwood	115,001,002	115,862,323	106,864,240	108,802,717	104,333,810	(2.4)
Gulfport	761,757,224	805,811,344	816,814,675	842,676,090	856,464,936	3.0
Hattiesburg	467,912,761	473,044,936	482,280,326	493,705,826	505,342,123	1.9
Jackson	1,207,182,951	1,252,499,510	1,251,727,960	1,240,883,060	1,240,485,705	0.7
Laurel	182,758,430	188,151,450	197,898,826	209,600,233	213,686,120	4.0
McComb	102,851,829	106,190,926	102,885,698	104,961,127	105,338,858	0.6
Meridian	347,111,909	355,154,627	365,967,586	356,225,680	366,810,051	1.4
Natchez	128,903,757	124,775,441	133,225,319	199,737,420	278,349,768	21.2
Pascagoula	245,159,735	228,725,988	227,131,210	244,627,789	256,612,126	1.1
Tupelo	505,969,659	520,896,796	545,794,918	557,017,501	577,164,739	3.3
Vicksburg	322,506,308	288,172,230	308,408,615	310,753,836	351,588,059	2.2
Yazoo City	52,021,220	54,792,825	55,250,160	54,418,371	55,418,778	1.6



Section IV - Comments on Valuation

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, 2024 for four of the municipalities is less than the certified rate for the fiscal year ending September 30, 2025 under the funding policy. **Therefore, Greenville, Hattiesburg, Jackson, and McComb need to increase their millage rate to the certified millage rate for the fiscal year ending September 30, 2025.**
2. As shown in the analysis of experience on pages 30 and 31, the System had an actuarial loss for the year. The loss was primarily due to the change in investment rate of return assumption from 7.55% to 7.00%.
3. From 2021 to 2022, the value of assessed property increased for fourteen and decreased for three 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, 2023**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	1,391
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Inactive Participants	0
Active Participants	<u>0</u>
Total	1,391



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	\$20,102,855	\$8,109,062	\$11,993,793	40.34%
Clarksdale	4,603,464	901,113	3,702,351	19.57%
Clinton	10,299,390	8,976,466	1,322,924	87.16%
Columbus	8,534,785	1,379,382	7,155,403	16.16%
Greenville	6,733,440	2,163,782	4,569,658	32.13%
Greenwood	4,818,588	2,335,342	2,483,246	48.47%
Gulfport	16,507,478	8,552,270	7,955,208	51.81%
Hattiesburg	32,965,379	18,654,537	14,310,842	56.59%
Jackson	83,247,787	42,159,828	41,087,959	50.64%
Laurel	7,973,128	4,792,577	3,180,551	60.11%
McComb	2,435,561	662,070	1,773,491	27.18%
Meridian	20,171,262	11,196,963	8,974,299	55.51%
Natchez	4,984,750	1,039,123	3,945,627	20.85%
Pascagoula	9,534,071	6,507,828	3,026,243	68.26%
Tupelo	12,476,991	4,227,457	8,249,534	33.88%
Vicksburg	17,416,414	7,531,918	9,884,496	43.25%
Yazoo City	1,531,704	202,164	1,329,540	13.20%
Totals	\$264,337,047	\$129,391,882	\$134,945,165	48.95%

During the year ended June 30, 2023, the Systems experienced a net decrease of \$1,153,090 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 is slightly lower this year due to the change in the investment return assumption. As this is a closed plan, the funded ratio should continue to increase to 100% when all the cities reach a pay-as-you-go status.

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)
06/30/14	\$157,970	\$340,385	46.4%	\$182,415	\$727	25,091.5%
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

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



Section V - Supplemental Disclosure Information

History of Funding Progress

Municipality	Actuarial Value of Assets as Percentage of AAL									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Biloxi	39.49%	39.55%	40.41%	41.27%	44.17%	44.50%	42.30%	40.53%	41.54%	40.34%
Clarksdale	23.18	26.51	27.32	26.80	26.10	22.74	20.74	20.67	21.00	19.57
Clinton	79.09	82.74	84.38	87.19	87.20	87.00	87.03	88.91	89.59	87.16
Columbus	13.10	10.54	9.82	9.49	9.76	10.09	11.35	13.52	15.39	16.16
Greenville	36.12	36.64	35.56	35.41	34.58	34.19	32.93	36.11	35.98	32.13
Greenwood	36.61	38.27	39.47	40.56	41.40	41.18	40.60	44.29	45.79	48.47
Gulfport	46.99	47.63	47.01	47.60	48.56	49.64	46.86	43.86	53.33	51.81
Hattiesburg	56.90	58.53	58.29	58.68	59.86	58.67	58.27	60.15	56.92	56.59
Jackson	50.83	51.49	50.95	51.24	52.25	51.17	49.89	52.98	53.98	50.64
Laurel	33.03	36.20	40.17	40.07	43.23	45.54	48.56	58.44	60.68	60.11
McComb	24.99	25.49	25.94	27.40	30.28	31.83	32.85	42.60	36.73	27.18
Meridian	38.17	42.40	48.51	55.76	59.84	62.08	61.95	65.46	58.79	55.51
Natchez	30.21	29.61	30.24	29.45	27.79	30.54	29.98	30.87	29.81	20.85
Pascagoula	57.57	59.64	60.57	62.75	66.07	67.89	68.11	68.31	69.37	68.26
Tupelo	44.96	44.31	43.82	43.26	42.41	39.79	37.49	37.82	36.59	33.88
Vicksburg	52.08	53.82	53.77	53.02	53.64	49.63	50.22	50.84	48.74	43.25
Yazoo City	16.66	20.20	18.42	17.25	19.12	17.49	16.95	10.04	14.13	13.20



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, 2023 was determined in the 2021 valuation and is the contribution amount for each municipality shown in Schedule H of the 2021 valuation report.

Contributions Required and Contributions Made

Municipality	Actuarially Determined Employer Contribution	Actual 2022 – 2023 Contribution*	Percentage Contributed
Biloxi	\$1,042,734	\$1,115,086	106.9%
Clarksdale	404,718	386,384	95.5
Clinton	106,623	331,606	311.0
Columbus	1,069,768	978,424	91.5
Greenville	423,587	394,898	93.2
Greenwood	297,617	329,339	110.7
Gulfport	808,647	976,710	120.8
Hattiesburg	1,079,102	2,256,406	209.1
Jackson	3,673,822	3,881,489	105.7
Laurel	303,775	506,125	166.6
McComb	129,893	0	0.0
Meridian	552,611	934,333	169.1
Natchez	355,712	38,220	10.7
Pascagoula	271,422	291,598	107.4
Tupelo	727,272	891,755	122.6
Vicksburg	761,769	637,265	83.7
Yazoo City	182,602	120,074	65.8
Total	\$ 12,191,674	\$ 14,069,712	115.4%

* Net of administrative expenses.



Section V - Supplemental Disclosure Information

Schedule of Employer Contributions*

Fiscal Year 10/1-9/30	Valuation date	Actuarially Determined Employer Contribution	Percentage Contributed
2015-16	6/30/2015	\$18,034,182	102.8%
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	N/A
2024-25	6/30/2023	13,427,492	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.



Section V - Supplemental Disclosure Information

Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members			
		Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/14	17	14	\$727,347	\$51,953	4.7%
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

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

Item	Fiscal Year Ended September 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Beginning of Year	1,941	1,890	1,849	1,798	1,754	1,694	1,634	1,585	1,510	1,444
Added	29	40	46	34	36	37	34	34	31	30
Removed	(80)	(81)	(97)	(78)	(96)	(97)	(83)	(109)	(97)	(83)
End of Year	1,890	1,849	1,798	1,754	1,694	1,634	1,585	1,510	1,444	1,391

*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	2018	2019	2020	2021	2022	2023
Beginning of Year	\$33,751,528	\$32,997,690	\$32,423,308	\$31,819,367	\$30,845,547	\$29,977,629
Added	674,428	736,820	654,407	633,039	613,357	588,260
Removed	(1,530,600)	(1,441,224)	(1,386,860)	(1,724,751)	(1,612,065)	(1,433,618)
Benefit increase due to annual COLA	102,334	130,022	128,512	117,892	130,790	223,534
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	\$32,997,690	\$32,423,308	\$31,819,367	\$30,845,547	\$29,977,629	\$29,355,805



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

Municipality	<u>Baseline</u> Millage Rate for Fiscal Year Ending 9/30/2025	<u>Investment Risk</u> (4.5% Returns) Millage Rate for Fiscal Year Ending 9/30/2025	<u>Longevity Risk</u> (10% Reduction in Mortality Rates) Millage Rate for Fiscal Year Ending 9/30/2025	<u>Contribution Risk</u> (Assessed Property Drops 5%) Millage Rate for Fiscal Year Ending 9/30/2025
Biloxi	1.65	1.73	1.71	1.74
Clarksdale	4.72	4.81	4.81	4.97
Clinton	0.81	1.03	0.87	0.86
Columbus	3.69	3.75	3.77	3.89
Greenville	2.24	2.31	2.31	2.36
Greenwood	2.33	2.45	2.44	2.45
Gulfport	0.81	0.87	0.84	0.85
Hattiesburg	2.63	2.82	2.74	2.76
Jackson	3.29	3.47	3.48	3.46
Laurel	1.29	1.42	1.38	1.36
McComb	1.67	1.71	1.71	1.76
Meridian	2.20	2.37	2.36	2.32
Natchez	1.25	1.28	1.29	1.32
Pascagoula	1.22	1.35	1.33	1.29
Tupelo	1.39	1.43	1.43	1.46
Vicksburg	2.73	2.85	2.88	2.88
Yazoo City	2.33	2.37	2.36	2.45



Schedule A - Development of Actuarial Value of Assets

	6/30/2022	6/30/2023	6/30/2024	6/30/2025	6/30/2026	6/30/2027
A. Actuarial Value Beginning of Year	\$140,258,345	\$136,245,810				
B. Market Value End of Year	131,677,650	124,878,975				
C. Market Value Beginning of Year	159,572,184	131,677,650				
D. Cash Flow						
D1. Contributions	15,741,008	14,356,849				
D2. Other Revenue	0	0				
D3. Benefit Payments	(30,509,021)	(29,686,570)				
D4. Administrative Expenses	(314,820)	(287,137)				
D5. Net	(15,082,833)	(15,616,858)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	(12,811,701)	8,818,183				
E2. Assumed Rate	7.55%	7.55%				
E3. Amount for Immediate Recognition	11,478,323	9,352,126				
E4. Amount for Phased-In Recognition	(24,290,024)	(533,943)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(4,858,005)	(106,789)	0	0	0	0
F2. First Prior Year	5,913,409	(4,858,005)	(106,789)	0	0	0
F3. Second Prior Year	(1,338,564)	5,913,409	(4,858,005)	(106,789)	0	0
F4. Third Prior Year	(199,247)	(1,338,564)	5,913,409	(4,858,005)	(106,789)	0
F5. Fourth Prior Year	<u>74,382</u>	<u>(199,247)</u>	<u>(1,338,564)</u>	<u>5,913,409</u>	<u>(4,858,005)</u>	<u>(106,789)</u>
F6. Total Recognized Investment Gain	(408,025)	(589,196)	(389,949)	948,615	(4,964,794)	(106,789)
G. Adjustment:	0	0				
H. Actuarial Value End of Year:						
A.+D5.+E3.+F6.+G.	\$136,245,810	\$129,391,882				
I. Difference Between Market & Actuarial Values	(4,568,160)	(4,512,907)	(4,122,958)	(5,071,573)	(106,779)	10

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.

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.

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*

<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 C - Summary of Benefit Provisions Evaluated

The following summary presents the main provisions of the Systems in effect June 30, 2023, 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.



Schedule C - Summary of Benefit Provisions Evaluated

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.

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

Return of Contributions

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.



Schedule C - Summary of Benefit Provisions Evaluated

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.



Schedule C - Summary of Benefit Provisions Evaluated

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



Schedule C - Summary of Benefit Provisions Evaluated

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.

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.



Schedule D - Detailed Tabulations of Data

RECONCILIATION OF DATA RECEIVED FROM PERS

Reconciliation of Data received from PERS	Pensioner File			Total
	Retirees	Disableds	Survivors	
From PERS	821	35	613	1,469
Refunded Deceased	(45)	(1)	(35)	(81)
Retired Added	3			3
For Valuation	779	34	578	1,391

STATUS RECONCILIATION FROM 2022 TO 2023

	Retirees	Disability	Survivor	Total
As of June 30, 2022	824	35	585	1,444
Death with Survivors	(27)	(1)	30	2
Deaths with no Survivors	(18)		(37)	(55)
Benefits Expired				
Data Corrections				
As of June 30, 2023	779	34	578	1,391



Schedule D - Detailed Tabulations of Data

Retirants & Beneficiaries as of June 30, 2023 Tabulated by Year of Retirement

Year of Retirement	No.	Annual Benefits excluding COLA	COLA	Total Annual Benefits	Average Monthly Benefit
2020	2	\$ 72,566	\$ 1,362	\$ 73,928	\$ 3,080
2019	3	97,017	5,326	102,343	2,843
2018	1	43,396	0	43,396	3,616
2017	2	78,137	5,463	83,600	3,483
2016	4	153,667	14,183	167,850	3,497
2015	1	25,335	0	25,335	2,111
2014	3	111,086	13,169	124,255	3,452
2013	8	346,843	55,332	402,175	4,189
2012	4	164,423	40,167	204,590	4,262
2011	0	0	0	0	0
2010	5	156,183	41,789	197,972	3,300
2009	3	79,418	6,048	85,466	2,374
2008	5	133,942	19,835	153,777	2,563
2007	7	224,464	69,350	293,814	3,498
2006	14	372,474	73,316	445,790	2,654
2005	25	652,103	132,619	784,722	2,616
2004	19	442,956	99,760	542,716	2,380
2003	29	758,496	195,679	954,175	2,742
2002	40	1,116,383	291,896	1,408,279	2,934
2001	23	661,295	149,528	810,823	2,938
2000	32	814,236	220,977	1,035,213	2,696
1999	34	819,170	199,213	1,018,383	2,496
1998	36	857,592	188,983	1,046,575	2,423
1997	49	1,078,079	203,376	1,281,455	2,179
1996	50	960,449	165,230	1,125,679	1,876
1995	95	1,652,018	263,622	1,915,640	1,680
1994	119	2,057,963	416,444	2,474,407	1,733
1993	86	1,459,655	313,177	1,772,832	1,718
1992	77	1,305,584	265,921	1,571,505	1,701
1991	67	1,140,004	195,066	1,335,070	1,661
1990	54	819,294	127,564	946,858	1,461
1989	39	547,778	128,300	676,078	1,445
1988 & Prior	455	4,969,544	1,281,560	6,251,104	1,145
Totals	1,391	\$ 24,171,550	\$ 5,184,255	\$ 29,355,805	\$ 1,759



Schedule D - Detailed Tabulations of Data

Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2023

Amount of Monthly Benefit	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1 - \$500	23	2	1	20
501 - 1,000	243	71	16	156
1,001 - 1,500	356	188	15	153
1,501 - 2,000	319	202	0	117
2,001 - 2,500	188	133	0	55
2,501 - 3,000	149	96	2	51
3,001 - 3,500	56	41	0	15
Over 3,500	57	46	0	11
Totals	1,391	779	34	578

*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, 2023

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					3	66,065	3	66,065
55 – 59	2	\$53,920			2	45,050	4	98,970
60 – 64	30	899,274			15	290,430	45	1,189,704
65 – 69	58	1,738,816	1	\$12,062	41	823,220	100	2,574,098
70 – 74	221	5,539,603	10	141,296	85	1,759,116	316	7,440,015
75 – 79	212	4,880,241	6	87,617	134	2,551,443	352	7,519,301
80 – 84	121	2,770,249	10	92,129	144	2,496,984	275	5,359,362
85 – 89	93	1,813,270	5	84,234	99	1,639,358	197	3,536,862
90 – 94	37	657,941	1	6,376	43	677,278	81	1,341,595
95	2	46,668			6	88,793	8	135,461
96	2	25,403			1	5,064	3	30,467
97					1	7,491	1	7,491
98	1	2,826					1	2,826
99					1	6,402	1	6,402
100 & Over			1	10,777	2	14,279	3	25,056
Totals	779	\$18,428,211	34	\$434,491	578	\$10,493,103	1,391	\$29,355,805



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, 2023 is shown below.

		\$ Thousands
(1)	UAAL* as of beginning of year	\$ 129,244.3
(2)	Total normal cost from last valuation	0.0
(3)	Total contributions**	14,069.7
(4)	Interest accrual: $\{[(1) + (2)] \times .0755\} - [(3) \times .03706]$	<u>9,236.5</u>
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 124,411.1
(6)	Change due to plan amendments	341.2
(7)	Change due to new actuarial assumptions or methods	<u>9,991.4</u>
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 134,743.7
(9)	Actual UAAL as of end of year	\$ 134,945.2
(10)	Gain/(loss): (8) – (9)	\$ (201.5)

*Unfunded actuarial accrued liability.

**Net of administrative expenses.



Schedule E - Analysis of Financial Experience

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

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2023	\$ Gain (or Loss) For Year Ending 6/30/2022
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	\$ (944.8)	\$ 1,039.8
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	942.6	1,013.3
Other. Miscellaneous gains and losses resulting from data adjustments, software programming, COLAs, etc.	<u>(199.3)</u>	<u>(319.3)</u>
Gain (or Loss) During Year From Financial Experience	\$ (201.5)	\$ 1,733.8
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>(10,332.6)</u>	<u>(2,678.8)</u>
Composite Gain (or Loss) During Year	\$ (10,534.1)	\$ (945.0)



Schedule F - Glossary

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.



Schedule G - The Nature of Actuarial Projections

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.



Schedule H - Cash Flow Projections Based on Funding Policy



**Mississippi Municipal Retirement Systems
City of Biloxi**

Cash Flow Projection

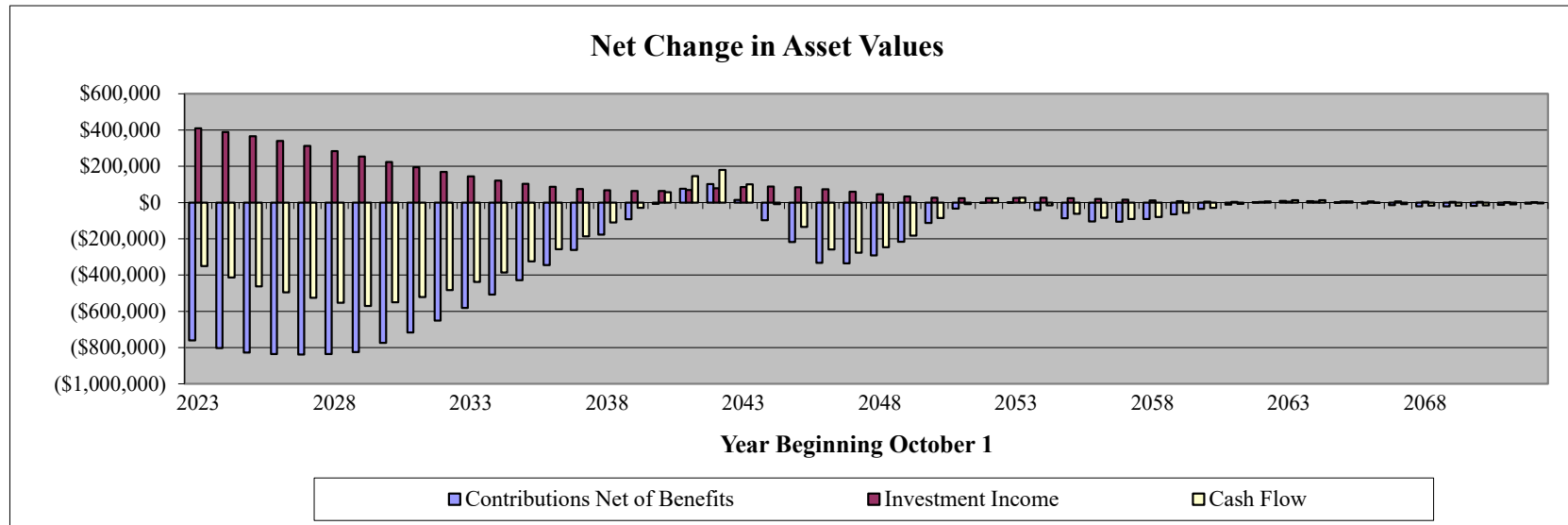
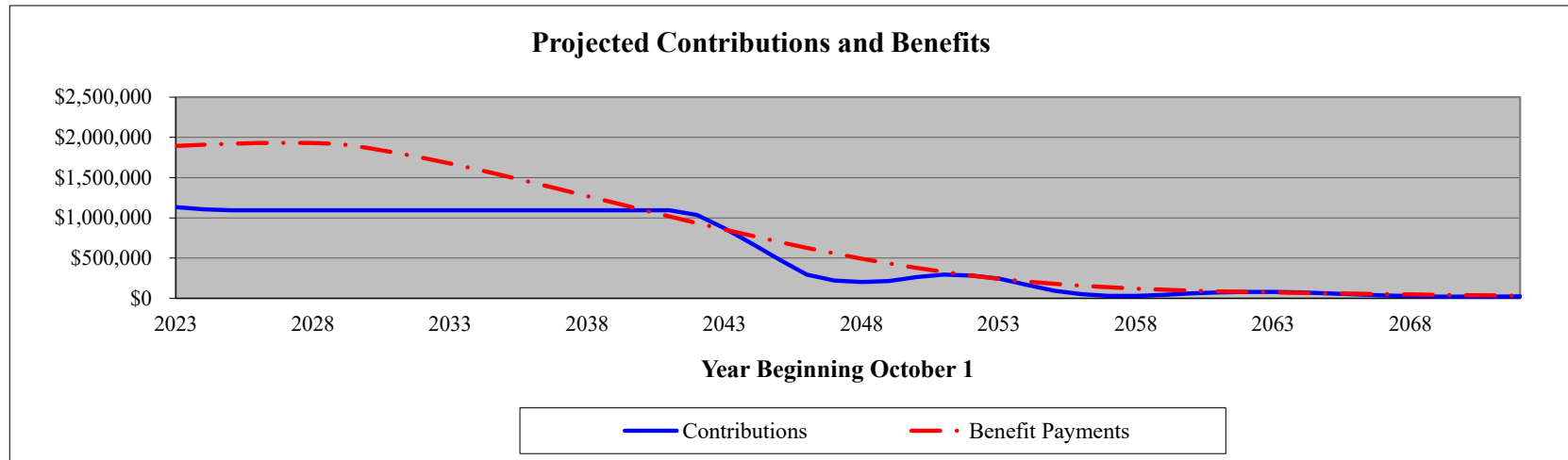
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments)

<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>
2023	\$662,733,865	\$7,826,235	0.00165	\$1,133,217	\$1,893,484	\$409,815	(\$350,452)	\$7,475,783	2024
2024	662,733,865	7,475,783	0.00165	1,106,766	1,909,592	389,386	(413,440)	7,062,343	2025
2025	662,733,865	7,062,343	0.00165	1,093,511	1,921,652	365,960	(462,181)	6,600,162	2026
2026	662,733,865	6,600,162	0.00165	1,093,511	1,929,319	340,332	(495,476)	6,104,686	2027
2027	662,733,865	6,104,686	0.00165	1,093,511	1,932,217	313,002	(525,704)	5,578,982	2028
2028	662,733,865	5,578,982	0.00165	1,093,511	1,929,899	284,151	(552,237)	5,026,745	2029
2029	662,733,865	5,026,745	0.00165	1,093,511	1,918,694	254,082	(571,101)	4,455,645	2030
2030	662,733,865	4,455,645	0.00165	1,093,511	1,868,160	224,043	(550,606)	3,905,039	2031
2031	662,733,865	3,905,039	0.00165	1,093,511	1,809,990	195,338	(521,141)	3,383,898	2032
2032	662,733,865	3,383,898	0.00165	1,093,511	1,744,488	168,452	(482,525)	2,901,373	2033
2037	662,733,865	1,494,057	0.00165	1,093,511	1,354,823	75,083	(186,229)	1,307,828	2038
2042	662,733,865	1,371,078	0.00141	1,036,659	935,324	78,159	179,494	1,550,572	2043
2047	662,733,865	1,249,034	0.00084	221,759	557,794	59,580	(276,455)	972,579	2048
2052	662,733,865	449,235	0.00043	282,293	282,792	24,694	24,195	473,430	2053
2057	662,733,865	338,060	0.00021	29,937	136,354	15,706	(90,711)	247,349	2058
2062	662,733,865	74,102	0.00012	80,552	78,399	4,134	6,287	80,389	2063
2067	662,733,865	112,090	0.00008	37,592	52,086	5,772	(8,722)	103,368	2068
2072	662,733,865	43,455	0.00005	25,104	31,702	2,211	(4,387)	39,068	2073



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

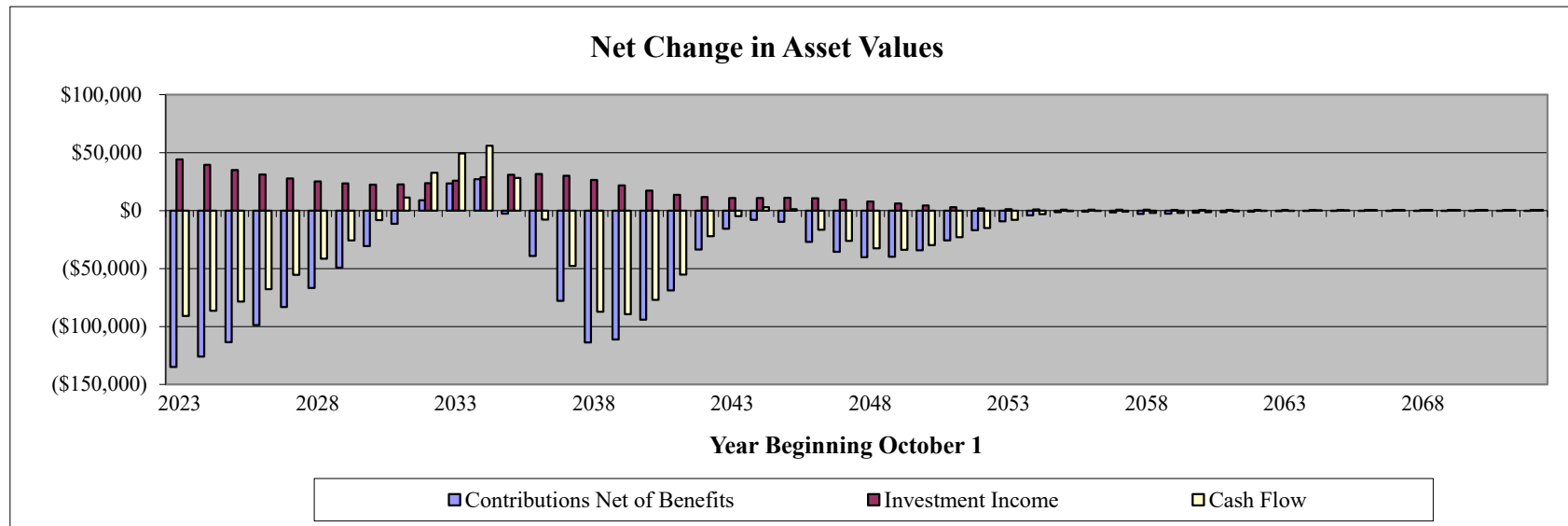
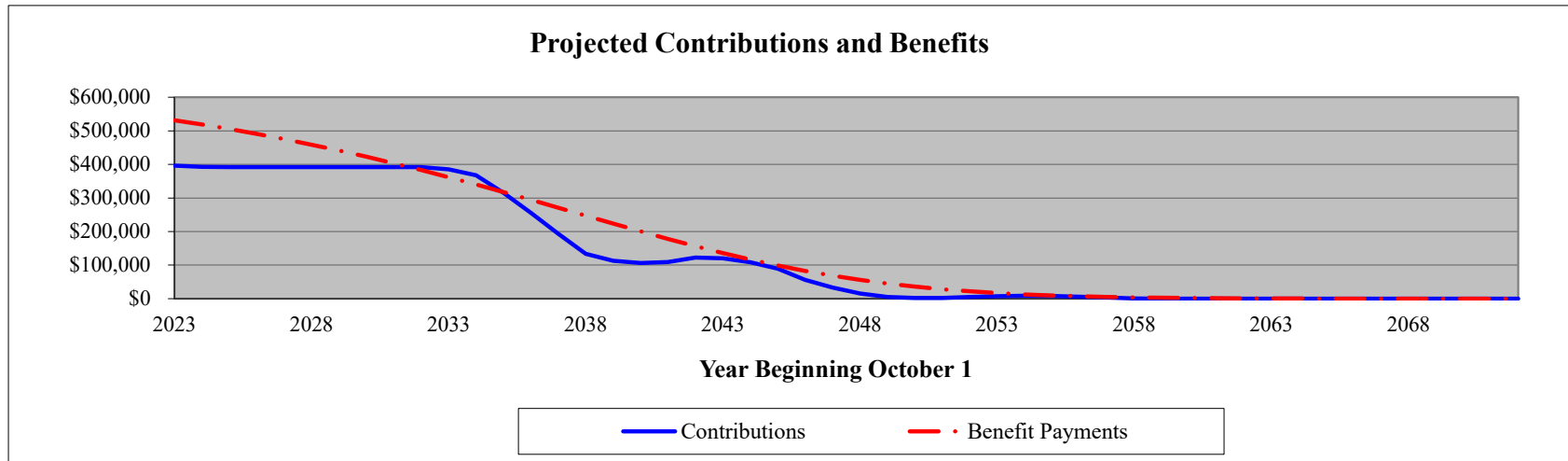
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments)

<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>
2023	\$83,042,644	\$869,684	0.00472	\$396,242	\$531,259	\$44,169	(\$90,848)	\$778,837	2024
2024	83,042,644	778,837	0.00472	392,999	518,943	39,419	(86,525)	692,312	2025
2025	83,042,644	692,312	0.00472	391,961	505,440	34,998	(78,481)	613,831	2026
2026	83,042,644	613,831	0.00472	391,961	490,847	31,078	(67,808)	546,024	2027
2027	83,042,644	546,024	0.00472	391,961	475,230	27,772	(55,497)	490,527	2028
2028	83,042,644	490,527	0.00472	391,961	458,638	25,170	(41,507)	449,020	2029
2029	83,042,644	449,020	0.00472	391,961	441,108	23,363	(25,784)	423,236	2030
2030	83,042,644	423,236	0.00472	391,961	422,662	22,445	(8,256)	414,979	2031
2031	83,042,644	414,979	0.00472	391,961	403,311	22,516	11,166	426,145	2032
2032	83,042,644	426,145	0.00461	391,961	383,069	23,679	32,571	458,716	2033
2037	83,042,644	584,160	0.00326	193,150	270,997	30,017	(47,830)	536,330	2038
2042	83,042,644	227,458	0.00188	122,584	156,313	11,595	(22,134)	205,324	2043
2047	83,042,644	188,010	0.00083	33,126	68,588	9,378	(26,084)	161,926	2048
2052	83,042,644	42,700	0.00026	4,995	21,930	1,889	(15,046)	27,655	2053
2057	83,042,644	15,794	0.00006	3,455	5,122	823	(844)	14,949	2058
2062	83,042,644	8,762	0.00001	0	873	458	(415)	8,347	2063
2067	83,042,644	8,805	0.00000	0	86	482	396	9,202	2068
2072	83,042,644	11,286	0.00000	0	4	621	617	11,904	2073



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

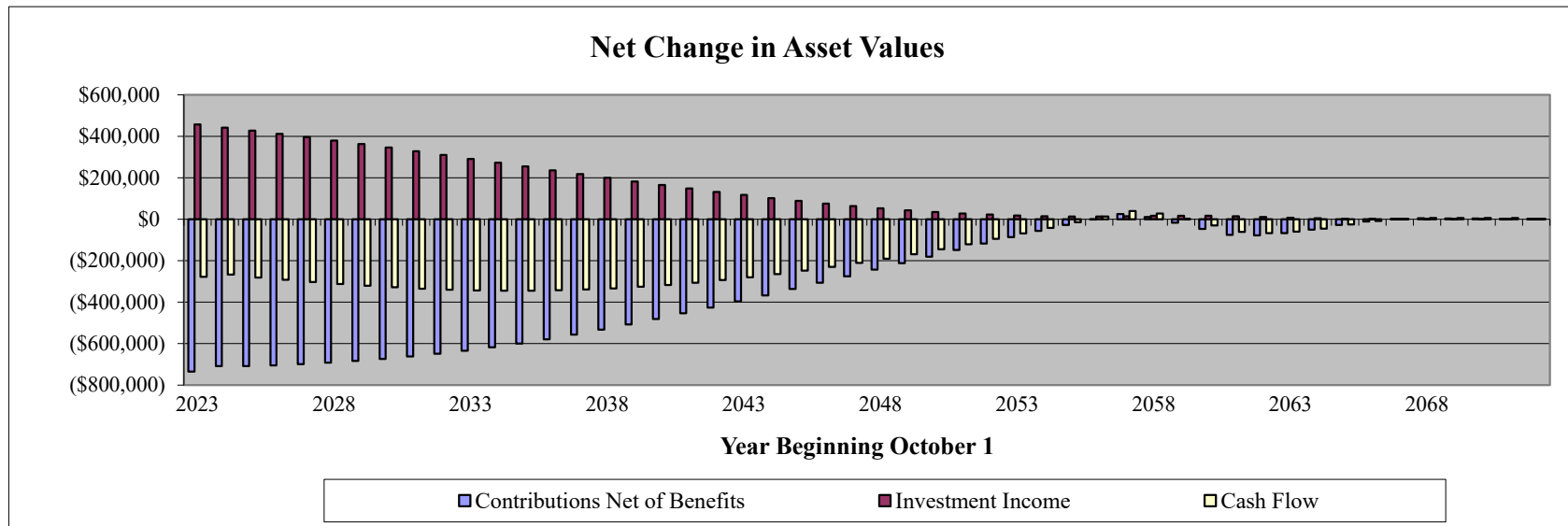
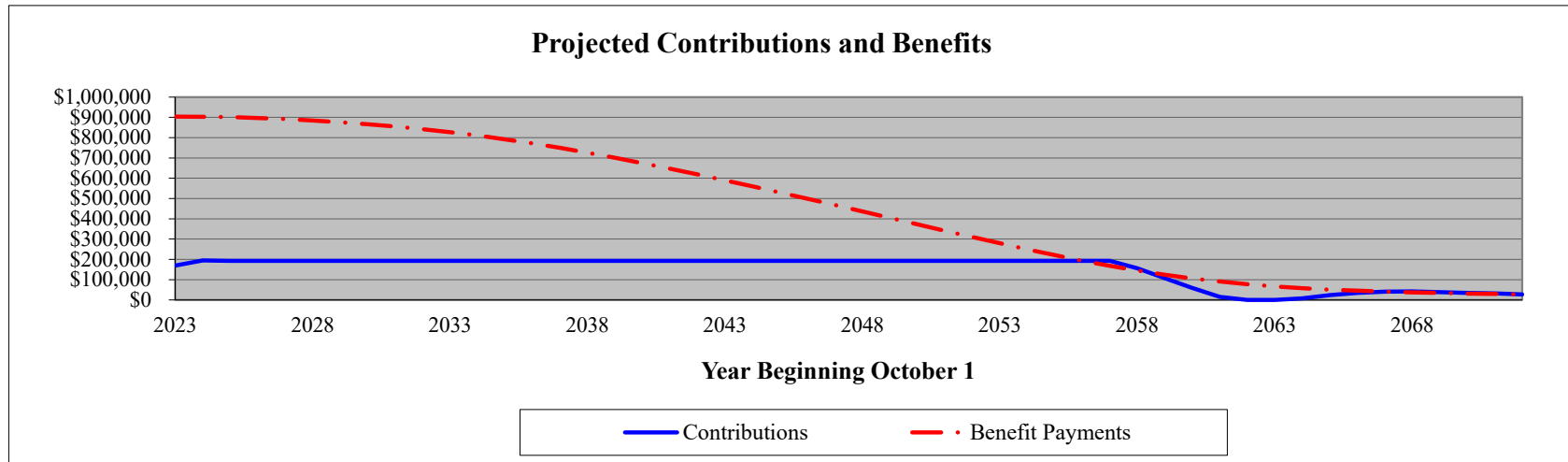
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments)

<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>
2023	\$238,190,869	\$8,663,386	0.00081	\$169,290	\$903,811	\$456,557	(\$277,964)	\$8,385,423	2024
2024	238,190,869	8,385,423	0.00081	194,721	903,025	441,981	(266,323)	8,119,100	2025
2025	238,190,869	8,119,100	0.00081	192,935	901,155	427,335	(280,885)	7,838,214	2026
2026	238,190,869	7,838,214	0.00081	192,935	897,246	411,992	(292,319)	7,545,895	2027
2027	238,190,869	7,545,895	0.00081	192,935	891,462	396,072	(302,455)	7,243,440	2028
2028	238,190,869	7,243,440	0.00081	192,935	884,507	379,625	(311,947)	6,931,492	2029
2029	238,190,869	6,931,492	0.00081	192,935	876,236	362,693	(320,608)	6,610,884	2030
2030	238,190,869	6,610,884	0.00081	192,935	866,502	345,323	(328,244)	6,282,640	2031
2031	238,190,869	6,282,640	0.00081	192,935	855,171	327,577	(334,659)	5,947,982	2032
2032	238,190,869	5,947,982	0.00081	192,935	842,128	309,525	(339,668)	5,608,313	2033
2037	238,190,869	4,232,789	0.00081	192,935	749,621	217,699	(338,987)	3,893,803	2038
2042	238,190,869	2,612,245	0.00081	192,935	618,606	132,124	(293,547)	2,318,699	2043
2047	238,190,869	1,295,676	0.00081	192,935	467,818	63,804	(211,079)	1,084,597	2048
2052	238,190,869	460,023	0.00081	192,935	309,959	22,126	(94,898)	365,125	2053
2057	238,190,869	254,483	0.00070	192,935	167,920	14,675	39,690	294,173	2058
2062	238,190,869	229,834	0.00033	0	77,504	10,538	(66,966)	162,868	2063
2067	238,190,869	23,532	0.00017	40,804	40,645	1,299	1,458	24,990	2068
2072	238,190,869	47,676	0.00011	27,196	26,994	2,628	2,830	50,506	2073



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)

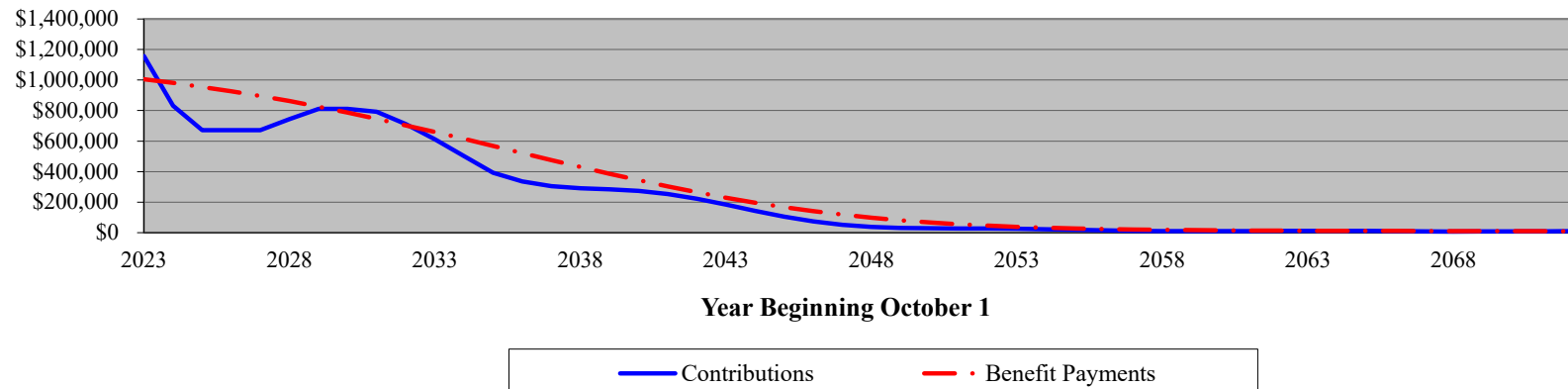
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$219,835,360	\$1,331,272	0.00369	\$1,157,070	\$1,005,243	\$77,339	\$229,166	\$1,560,438	2024
2024	219,835,360	1,560,438	0.00369	831,654	981,088	81,770	(67,664)	1,492,773	2025
2025	219,835,360	1,492,773	0.00369	671,525	954,791	74,417	(208,849)	1,283,924	2026
2026	219,835,360	1,283,924	0.00369	671,525	926,239	63,705	(191,009)	1,092,915	2027
2027	219,835,360	1,092,915	0.00369	671,525	895,357	54,037	(169,795)	923,120	2028
2028	219,835,360	923,120	0.00369	743,944	862,042	47,567	(70,531)	852,590	2029
2029	219,835,360	852,590	0.00369	811,192	825,435	46,506	32,263	884,853	2030
2030	219,835,360	884,853	0.00358	811,192	786,652	49,333	73,873	958,726	2031
2031	219,835,360	958,726	0.00339	792,787	745,861	54,003	100,929	1,059,655	2032
2032	219,835,360	1,059,655	0.00320	711,514	703,298	58,504	66,720	1,126,375	2033
2037	219,835,360	826,498	0.00217	304,086	476,050	40,792	(131,172)	695,326	2038
2042	219,835,360	448,176	0.00120	221,900	264,751	23,487	(19,364)	428,813	2043
2047	219,835,360	278,763	0.00054	52,220	118,023	13,547	(52,256)	226,507	2048
2052	219,835,360	81,742	0.00021	26,746	45,614	3,984	(14,884)	66,858	2053
2057	219,835,360	40,102	0.00009	12,739	20,320	2,000	(5,581)	34,521	2058
2062	219,835,360	17,075	0.00006	11,622	13,221	896	(703)	16,372	2063
2067	219,835,360	18,985	0.00005	8,443	10,888	978	(1,467)	17,518	2068
2072	219,835,360	12,879	0.00004	9,559	9,067	722	1,214	14,093	2073



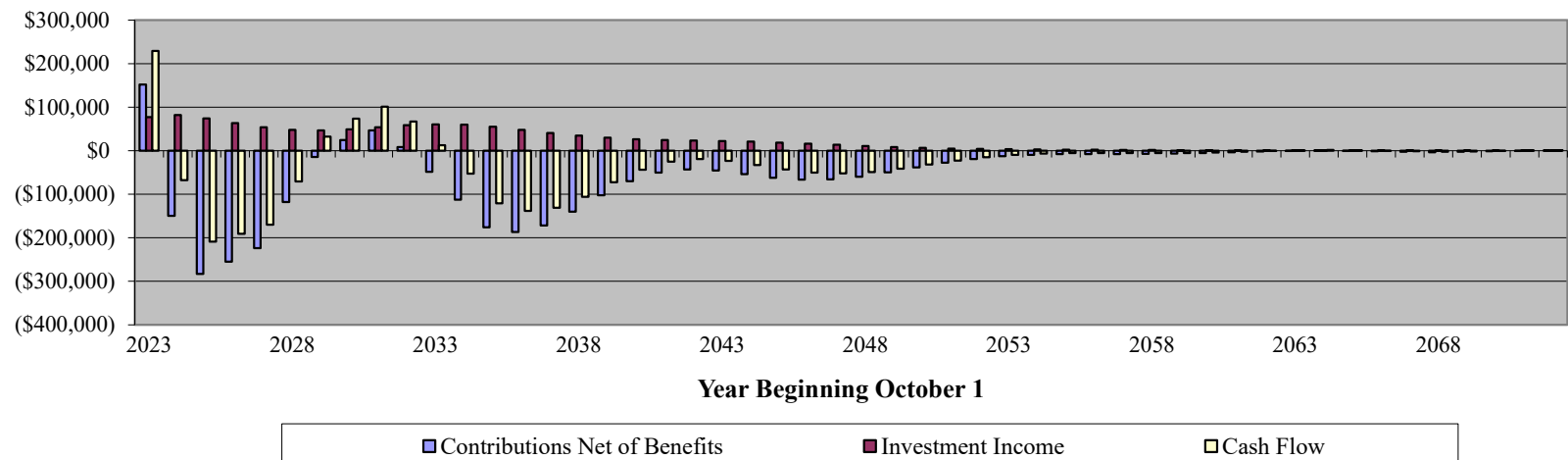
Mississippi Municipal Retirement Systems
City of Columbus

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Greenville**

Cash Flow Projection

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

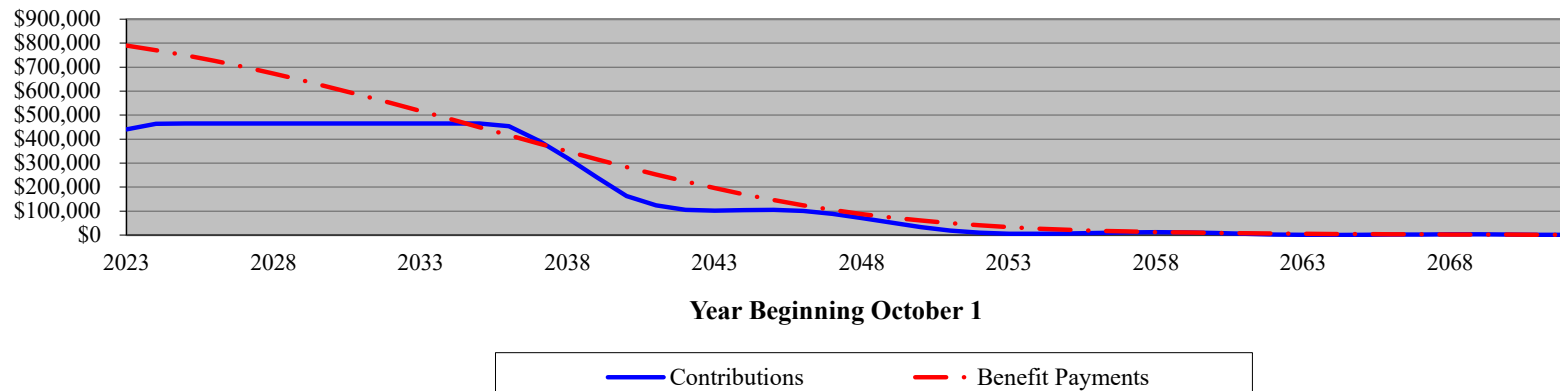
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$207,650,264	\$2,088,314	0.00224	\$440,270	\$789,967	\$105,369	(\$244,328)	\$1,843,986	2024
2024	207,650,264	1,843,986	0.00224	463,579	770,926	93,080	(214,267)	1,629,719	2025
2025	207,650,264	1,629,719	0.00224	465,137	749,564	81,918	(202,509)	1,427,211	2026
2026	207,650,264	1,427,211	0.00224	465,137	725,992	71,419	(189,436)	1,237,775	2027
2027	207,650,264	1,237,775	0.00224	465,137	700,376	61,695	(173,544)	1,064,231	2028
2028	207,650,264	1,064,231	0.00224	465,137	672,936	52,895	(154,904)	909,327	2029
2029	207,650,264	909,327	0.00224	465,137	643,918	45,162	(133,619)	775,708	2030
2030	207,650,264	775,708	0.00224	465,137	613,570	38,637	(109,796)	665,912	2031
2031	207,650,264	665,912	0.00224	465,137	582,135	33,451	(83,547)	582,365	2032
2032	207,650,264	582,365	0.00224	465,137	549,838	29,732	(54,969)	527,396	2033
2037	207,650,264	625,547	0.00184	393,838	382,034	34,725	46,529	672,076	2038
2042	207,650,264	448,909	0.00108	105,204	223,370	21,484	(96,682)	352,227	2043
2047	207,650,264	180,260	0.00051	88,785	104,899	9,477	(6,637)	173,623	2048
2052	207,650,264	109,990	0.00020	9,696	40,530	5,213	(25,621)	84,370	2053
2057	207,650,264	20,257	0.00007	11,280	14,987	1,014	(2,693)	17,564	2058
2062	207,650,264	19,348	0.00003	2,298	6,460	951	(3,211)	16,138	2063
2067	207,650,264	3,254	0.00001	2,334	3,090	158	(598)	2,656	2068
2072	207,650,264	4,193	0.00001	626	1,171	216	(329)	3,864	2073



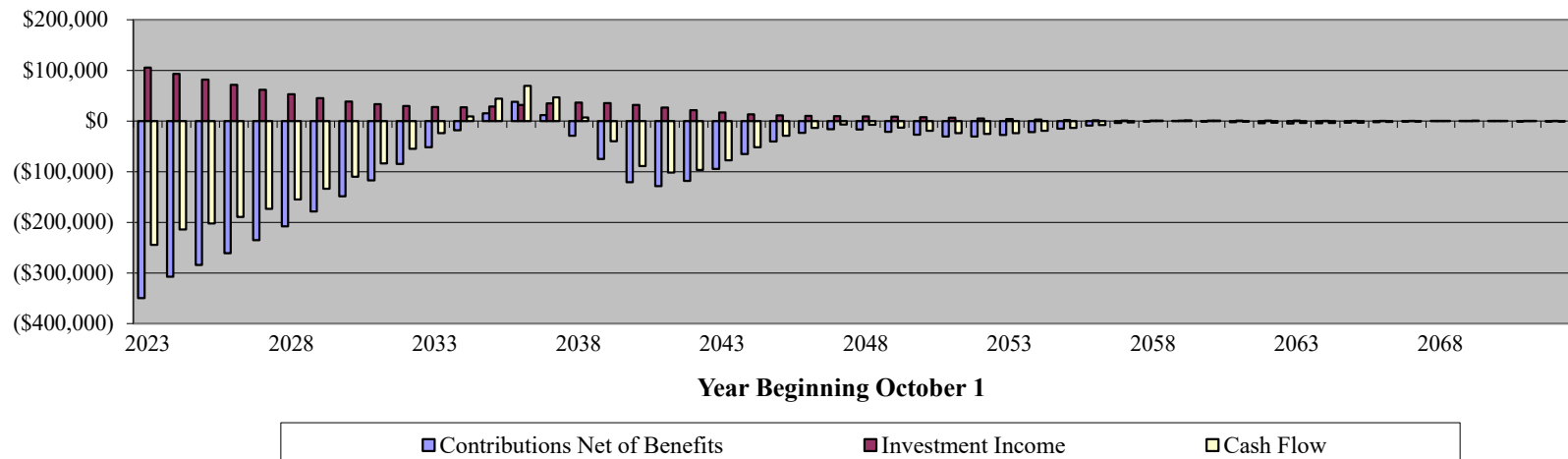
Mississippi Municipal Retirement Systems
City of Greenville

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Greenwood**

Cash Flow Projection

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

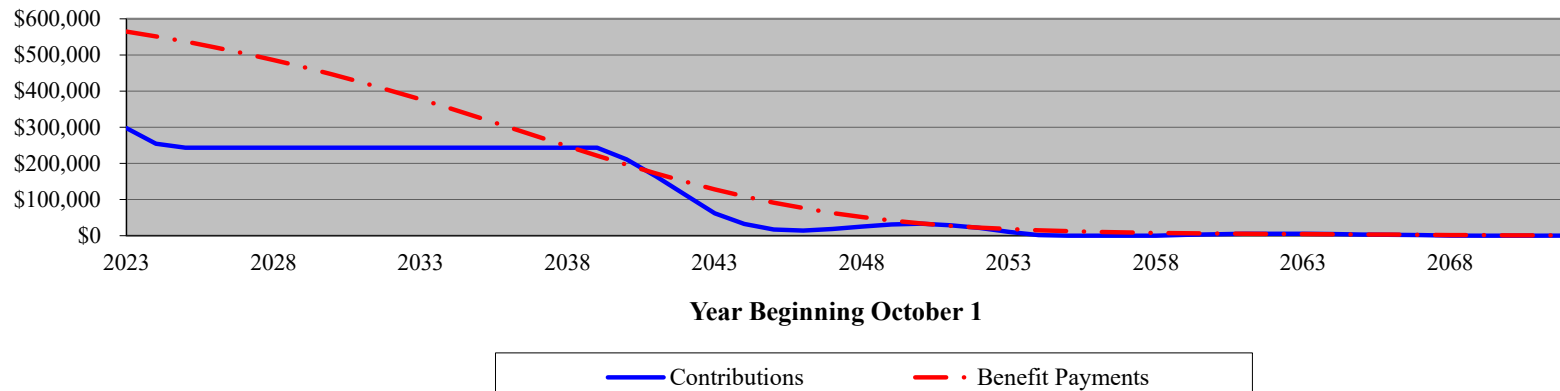
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$104,333,810	\$2,253,890	0.00233	\$297,573	\$564,707	\$116,716	(\$150,418)	\$2,103,472	2024
2024	104,333,810	2,103,472	0.00233	254,314	551,590	107,625	(189,651)	1,913,821	2025
2025	104,333,810	1,913,821	0.00233	243,098	537,127	97,283	(196,746)	1,717,075	2026
2026	104,333,810	1,717,075	0.00233	243,098	521,372	86,889	(191,385)	1,525,690	2027
2027	104,333,810	1,525,690	0.00233	243,098	504,365	76,824	(184,443)	1,341,247	2028
2028	104,333,810	1,341,247	0.00233	243,098	486,125	67,175	(175,852)	1,165,395	2029
2029	104,333,810	1,165,395	0.00233	243,098	466,658	58,031	(165,529)	999,866	2030
2030	104,333,810	999,866	0.00233	243,098	445,968	49,488	(153,382)	846,484	2031
2031	104,333,810	846,484	0.00233	243,098	424,079	41,646	(139,335)	707,149	2032
2032	104,333,810	707,149	0.00233	243,098	401,047	34,608	(123,341)	583,807	2033
2037	104,333,810	288,610	0.00233	243,098	273,684	15,044	(15,542)	273,068	2038
2042	104,333,810	365,804	0.00143	112,664	149,410	19,122	(17,624)	348,180	2043
2047	104,333,810	119,745	0.00060	18,867	62,962	5,390	(38,705)	81,040	2048
2052	104,333,810	57,628	0.00021	21,562	22,363	3,148	2,347	59,975	2053
2057	104,333,810	25,226	0.00009	0	9,110	1,140	(7,970)	17,256	2058
2062	104,333,810	3,647	0.00005	5,642	4,862	222	1,002	4,649	2063
2067	104,333,810	7,190	0.00002	1,414	2,419	368	(637)	6,553	2068
2072	104,333,810	1,798	0.00001	1	789	78	(710)	1,088	2073



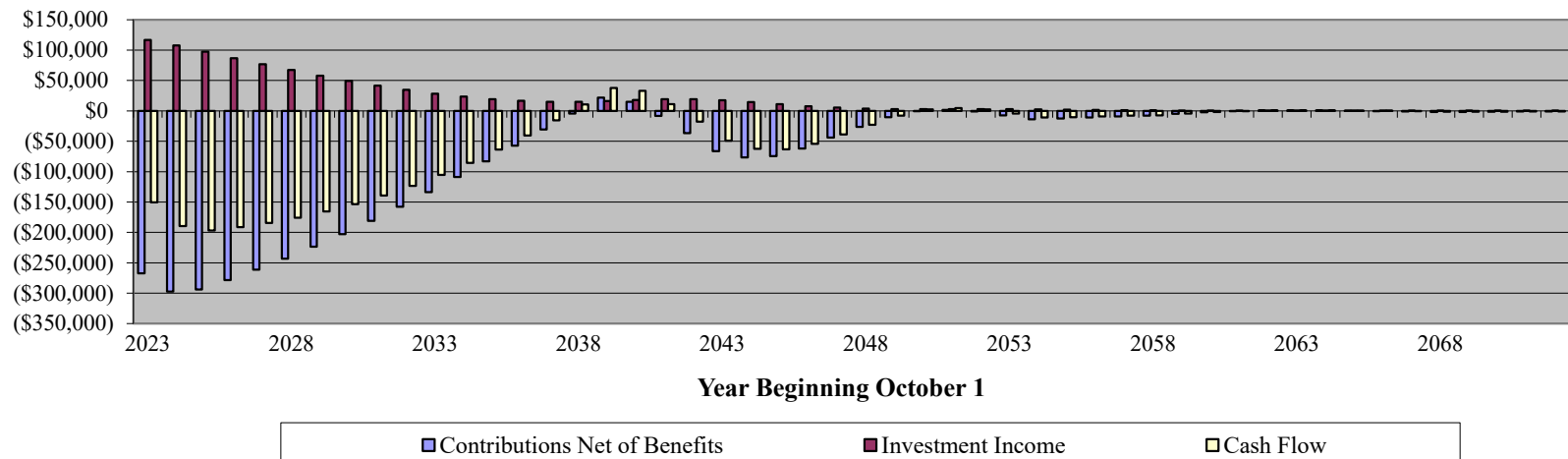
Mississippi Municipal Retirement Systems
City of Greenwood

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Gulfport**

Cash Flow Projection

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

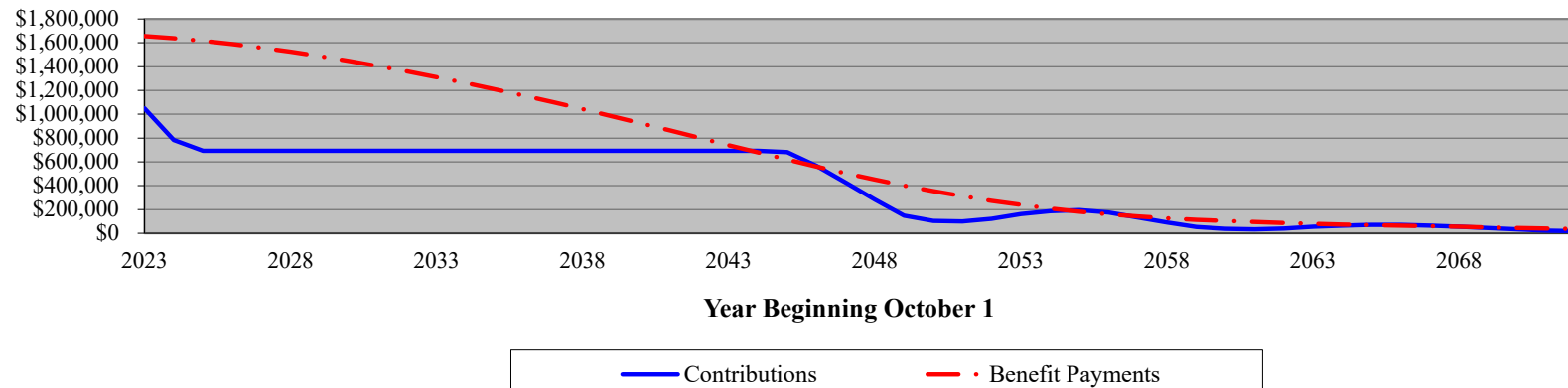
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$856,464,936	\$8,253,985	0.00081	\$1,049,212	\$1,656,375	\$437,496	(\$169,667)	\$8,084,318	2024
2024	856,464,936	8,084,318	0.00081	783,665	1,638,656	421,440	(433,551)	7,650,768	2025
2025	856,464,936	7,650,768	0.00081	693,737	1,616,827	395,747	(527,343)	7,123,425	2026
2026	856,464,936	7,123,425	0.00081	693,737	1,590,727	367,451	(529,539)	6,593,885	2027
2027	856,464,936	6,593,885	0.00081	693,737	1,559,753	339,167	(526,849)	6,067,037	2028
2028	856,464,936	6,067,037	0.00081	693,737	1,525,010	311,133	(520,140)	5,546,897	2029
2029	856,464,936	5,546,897	0.00081	693,737	1,487,451	283,544	(510,170)	5,036,726	2030
2030	856,464,936	5,036,726	0.00081	693,737	1,447,159	256,578	(496,844)	4,539,883	2031
2031	856,464,936	4,539,883	0.00081	693,737	1,404,254	230,416	(480,101)	4,059,782	2032
2032	856,464,936	4,059,782	0.00081	693,737	1,358,898	205,241	(459,920)	3,599,863	2033
2037	856,464,936	2,033,217	0.00081	693,737	1,099,507	100,818	(304,952)	1,728,266	2038
2042	856,464,936	967,577	0.00081	693,737	801,434	50,295	(57,402)	910,175	2043
2047	856,464,936	1,163,308	0.00059	426,490	504,792	61,857	(16,445)	1,146,863	2048
2052	856,464,936	442,108	0.00032	121,680	272,503	20,224	(130,599)	311,508	2053
2057	856,464,936	297,236	0.00017	133,058	141,806	16,111	7,363	304,599	2058
2062	856,464,936	132,484	0.00010	40,609	86,456	6,043	(39,804)	92,680	2063
2067	856,464,936	80,607	0.00007	64,877	58,807	4,598	10,668	91,275	2068
2072	856,464,936	77,846	0.00004	17,608	36,337	3,773	(14,956)	62,890	2073



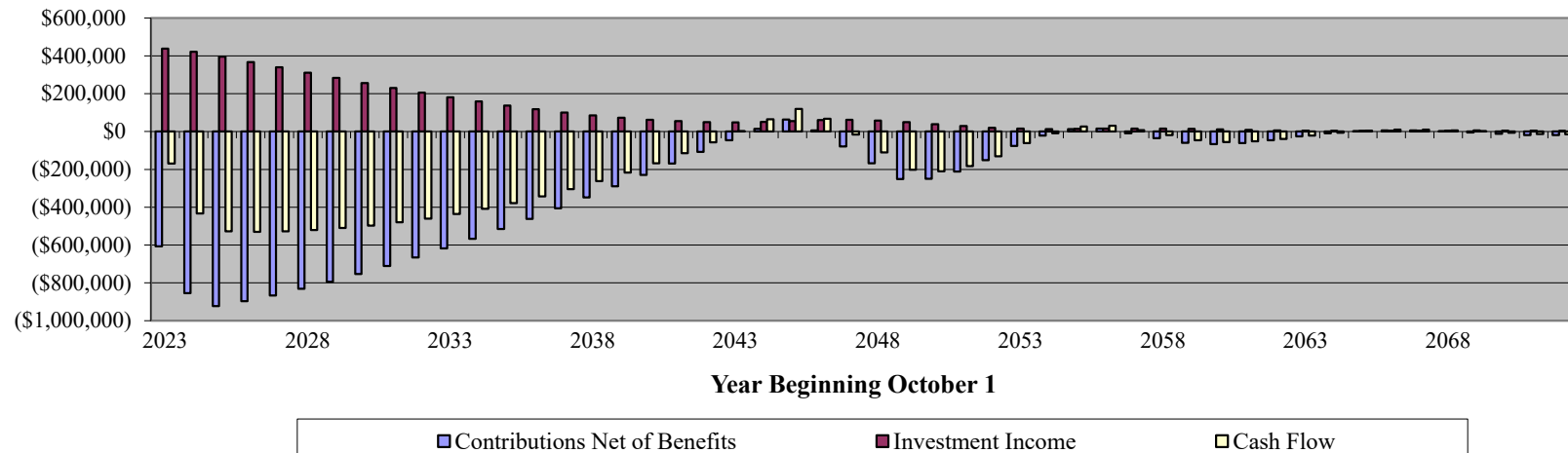
Mississippi Municipal Retirement Systems
City of Gulfport

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Hattiesburg**

Cash Flow Projection

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

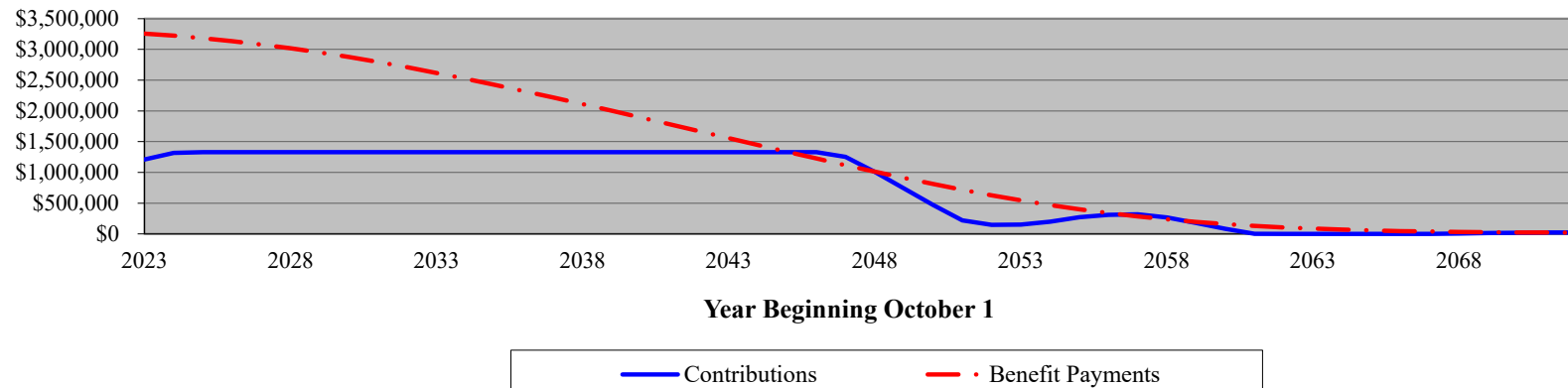
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$505,342,123	\$18,003,908	0.00263	\$1,209,442	\$3,256,709	\$934,669	(\$1,112,598)	\$16,891,309	2024
2024	505,342,123	16,891,309	0.00263	1,316,416	3,223,701	877,274	(1,030,011)	15,861,298	2025
2025	505,342,123	15,861,298	0.00263	1,329,050	3,183,354	822,061	(1,032,243)	14,829,055	2026
2026	505,342,123	14,829,055	0.00263	1,329,050	3,135,749	766,579	(1,040,120)	13,788,935	2027
2027	505,342,123	13,788,935	0.00263	1,329,050	3,080,707	710,866	(1,040,791)	12,748,143	2028
2028	505,342,123	12,748,143	0.00263	1,329,050	3,018,449	655,311	(1,034,088)	11,714,055	2029
2029	505,342,123	11,714,055	0.00263	1,329,050	2,950,007	600,293	(1,020,664)	10,693,391	2030
2030	505,342,123	10,693,391	0.00263	1,329,050	2,875,485	546,179	(1,000,256)	9,693,135	2031
2031	505,342,123	9,693,135	0.00263	1,329,050	2,794,735	493,356	(972,329)	8,720,806	2032
2032	505,342,123	8,720,806	0.00263	1,329,050	2,708,822	442,208	(937,564)	7,783,242	2033
2037	505,342,123	4,518,191	0.00263	1,329,050	2,216,570	224,420	(663,100)	3,855,091	2038
2042	505,342,123	1,991,473	0.00263	1,329,050	1,669,588	100,292	(240,246)	1,751,227	2043
2047	505,342,123	1,858,319	0.00221	1,251,586	1,117,761	105,838	239,663	2,097,982	2048
2052	505,342,123	1,517,898	0.00124	147,990	628,883	70,437	(410,456)	1,107,443	2053
2057	505,342,123	415,532	0.00056	318,015	283,863	23,781	57,933	473,465	2058
2062	505,342,123	392,695	0.00021	0	105,023	18,749	(86,274)	306,421	2063
2067	505,342,123	89,651	0.00008	0	38,349	3,890	(34,459)	55,193	2068
2072	505,342,123	16,526	0.00004	21,787	18,863	988	3,912	20,438	2073



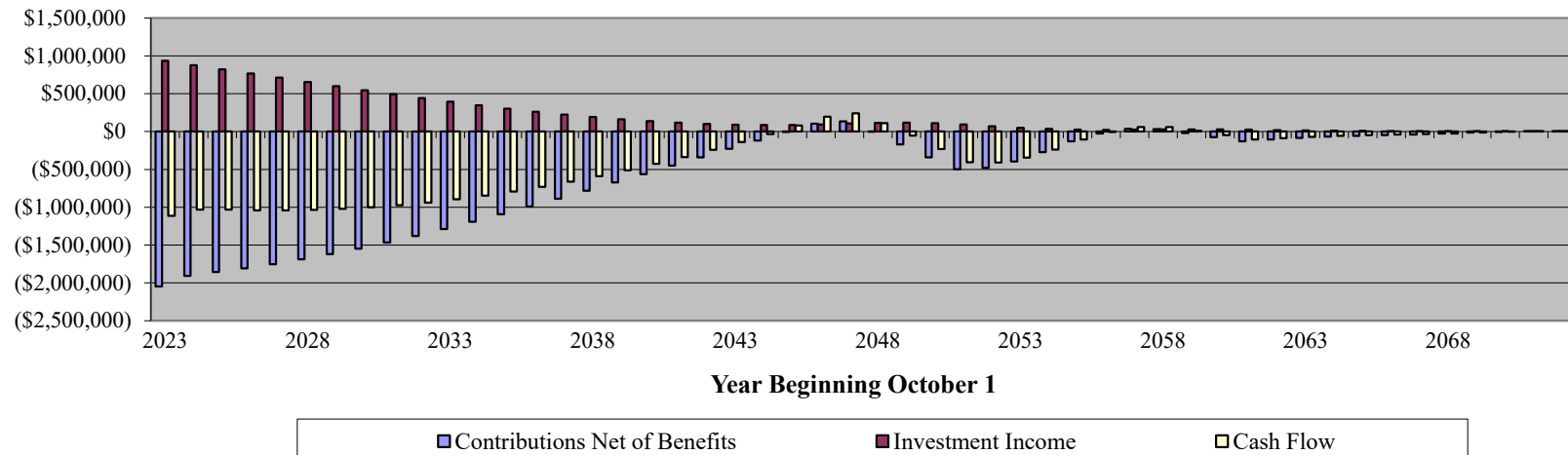
Mississippi Municipal Retirement Systems
City of Hattiesburg

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values



**Mississippi Municipal Retirement Systems
City of Jackson**



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

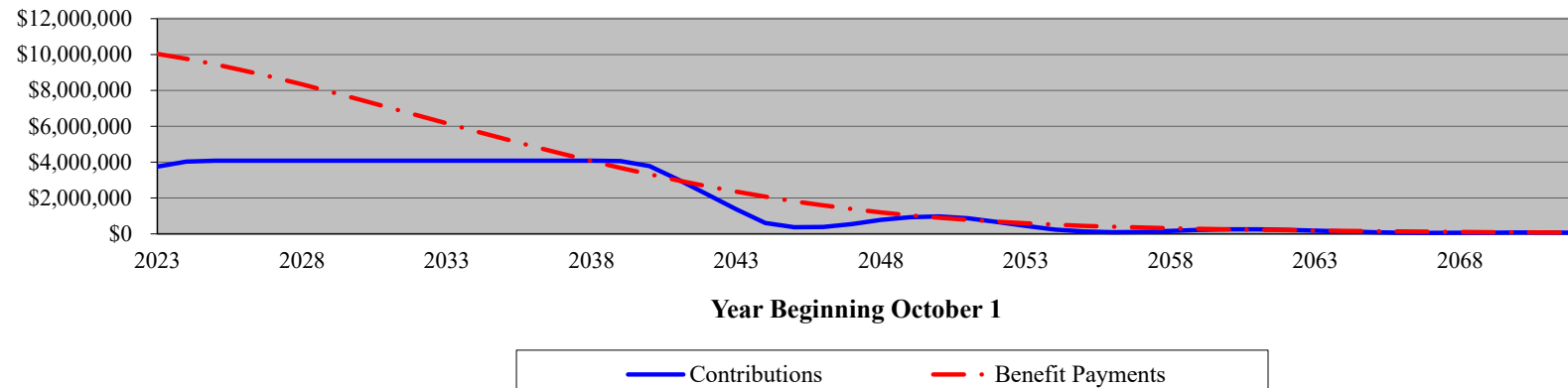
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$1,240,485,705	\$40,689,385	0.00329	\$3,752,733	\$10,034,235	\$2,067,487	(\$4,214,015)	\$36,475,370	2024
2024	1,240,485,705	36,475,370	0.00329	4,037,781	9,765,392	1,850,744	(3,876,867)	32,598,503	2025
2025	1,240,485,705	32,598,503	0.00329	4,081,198	9,454,301	1,647,135	(3,725,968)	28,872,535	2026
2026	1,240,485,705	28,872,535	0.00329	4,081,198	9,107,892	1,451,606	(3,575,088)	25,297,447	2027
2027	1,240,485,705	25,297,447	0.00329	4,081,198	8,731,964	1,265,175	(3,385,591)	21,911,856	2028
2028	1,240,485,705	21,911,856	0.00329	4,081,198	8,332,151	1,089,816	(3,161,137)	18,750,719	2029
2029	1,240,485,705	18,750,719	0.00329	4,081,198	7,914,021	927,298	(2,905,525)	15,845,194	2030
2030	1,240,485,705	15,845,194	0.00329	4,081,198	7,482,914	779,191	(2,622,525)	13,222,669	2031
2031	1,240,485,705	13,222,669	0.00329	4,081,198	7,043,792	646,866	(2,315,728)	10,906,942	2032
2032	1,240,485,705	10,906,942	0.00329	4,081,198	6,601,154	531,511	(1,988,445)	8,918,496	2033
2037	1,240,485,705	4,550,824	0.00329	4,081,198	4,457,792	240,078	(136,516)	4,414,308	2038
2042	1,240,485,705	6,473,977	0.00214	2,193,727	2,652,287	343,627	(114,933)	6,359,043	2043
2047	1,240,485,705	2,208,447	0.00111	545,344	1,382,323	98,756	(738,223)	1,470,225	2048
2052	1,240,485,705	1,387,911	0.00054	663,680	674,498	76,042	65,224	1,453,135	2053
2057	1,240,485,705	665,000	0.00028	102,256	352,736	29,779	(220,701)	444,299	2058
2062	1,240,485,705	327,870	0.00017	219,598	206,378	18,392	31,612	359,482	2063
2067	1,240,485,705	242,721	0.00010	55,461	122,475	11,531	(55,483)	187,239	2068
2072	1,240,485,705	120,614	0.00005	66,570	66,360	6,639	6,849	127,463	2073



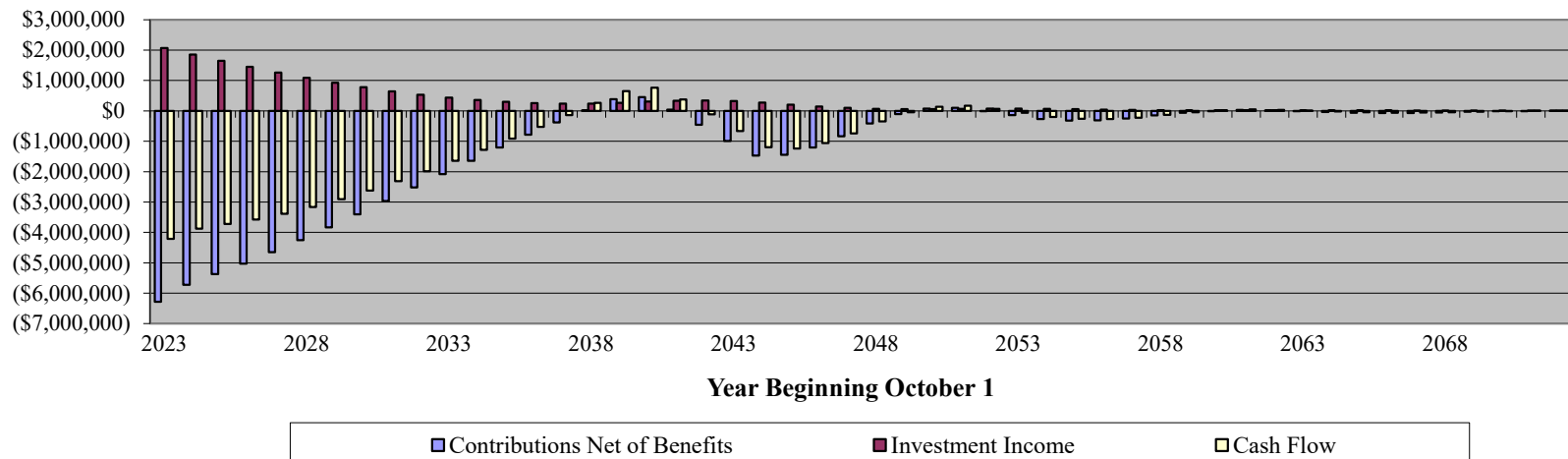
Mississippi Municipal Retirement Systems
City of Jackson

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Laurel**

Cash Flow Projection

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

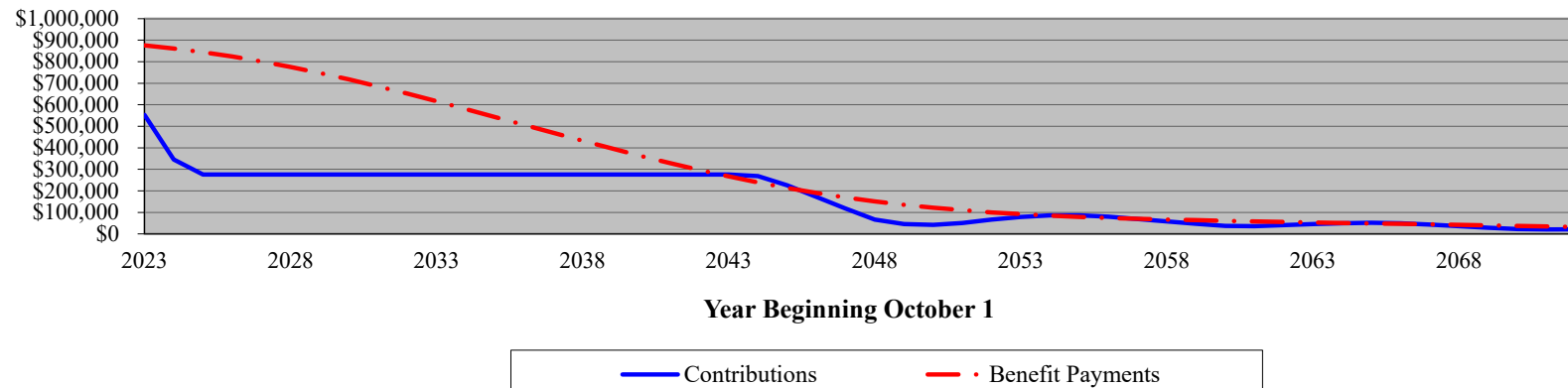
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$213,686,120	\$4,625,422	0.00129	\$552,928	\$876,029	\$245,632	(\$77,469)	\$4,547,953	2024
2024	213,686,120	4,547,953	0.00129	345,637	861,800	236,133	(280,030)	4,267,923	2025
2025	213,686,120	4,267,923	0.00129	275,655	844,604	219,299	(349,650)	3,918,273	2026
2026	213,686,120	3,918,273	0.00129	275,655	824,488	200,614	(348,219)	3,570,054	2027
2027	213,686,120	3,570,054	0.00129	275,655	801,551	182,084	(343,812)	3,226,241	2028
2028	213,686,120	3,226,241	0.00129	275,655	775,943	163,869	(336,419)	2,889,822	2029
2029	213,686,120	2,889,822	0.00129	275,655	747,868	146,128	(326,085)	2,563,737	2030
2030	213,686,120	2,563,737	0.00129	275,655	717,573	129,015	(312,903)	2,250,834	2031
2031	213,686,120	2,250,834	0.00129	275,655	685,338	112,680	(297,003)	1,953,832	2032
2032	213,686,120	1,953,832	0.00129	275,655	651,471	97,264	(278,552)	1,675,280	2033
2037	213,686,120	789,437	0.00129	275,655	469,299	38,165	(155,479)	633,958	2038
2042	213,686,120	309,196	0.00129	275,655	296,869	16,430	(4,784)	304,412	2043
2047	213,686,120	415,235	0.00080	117,376	169,891	21,413	(31,102)	384,133	2048
2052	213,686,120	122,910	0.00047	66,785	100,103	5,856	(27,462)	95,449	2053
2057	213,686,120	118,783	0.00033	69,315	70,097	6,512	5,730	124,513	2058
2062	213,686,120	76,239	0.00026	40,593	55,723	3,783	(11,347)	64,892	2063
2067	213,686,120	75,314	0.00021	43,000	43,972	4,116	3,144	78,459	2068
2072	213,686,120	48,803	0.00015	20,972	32,266	2,378	(8,916)	39,887	2073



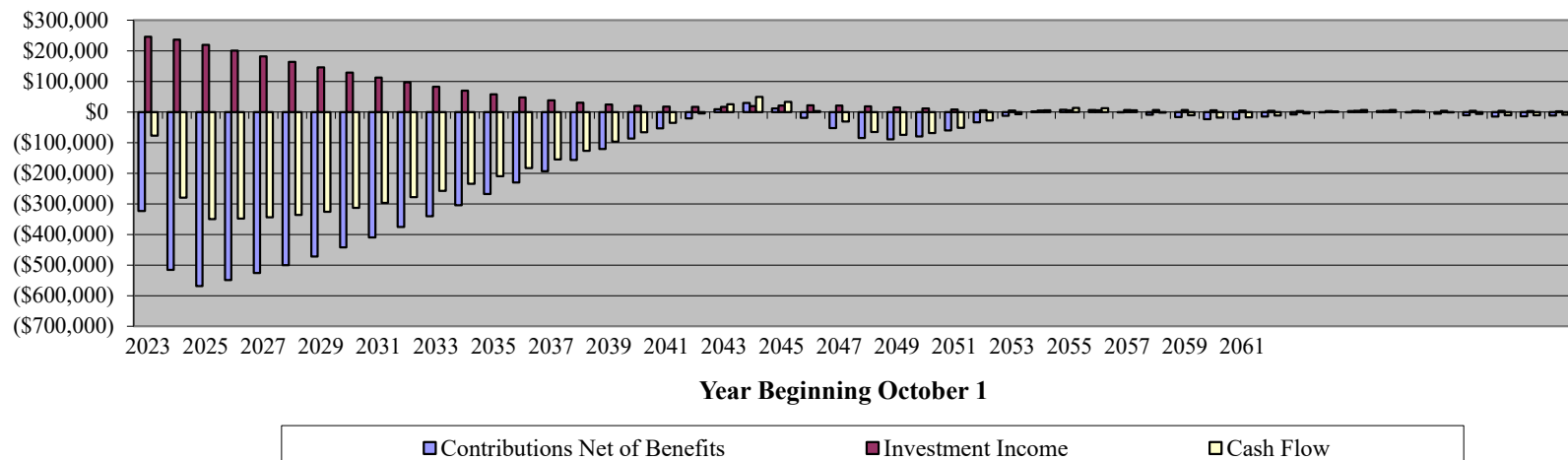
Mississippi Municipal Retirement Systems
City of Laurel

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of McComb**

Cash Flow Projection

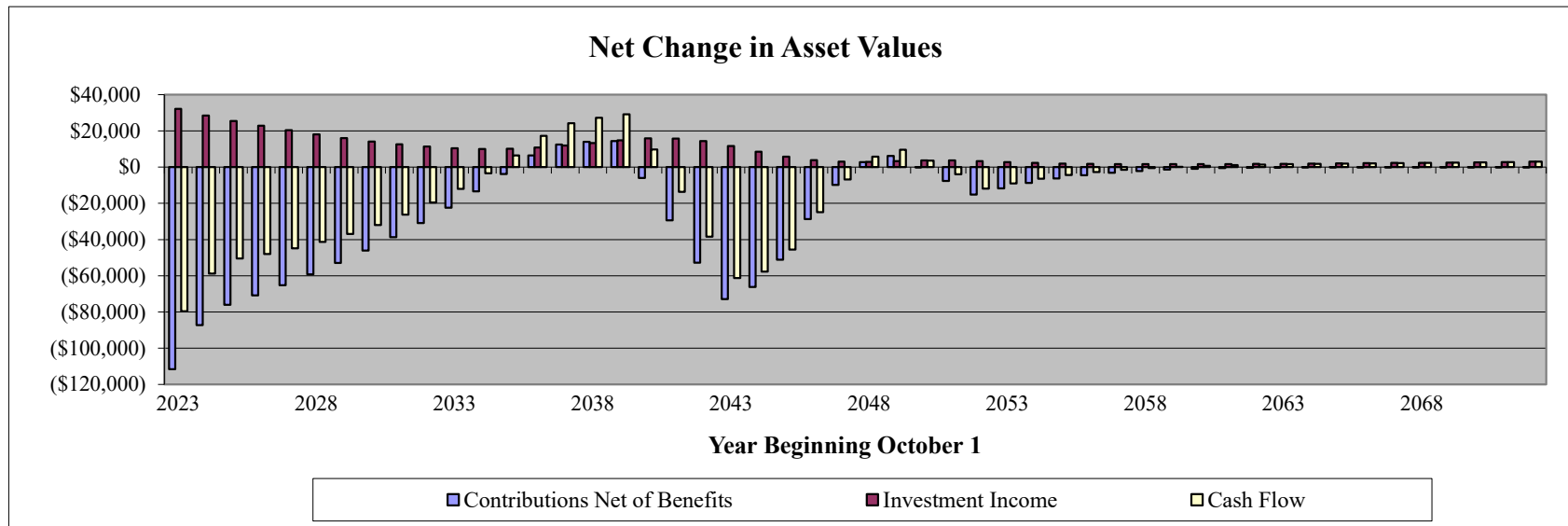
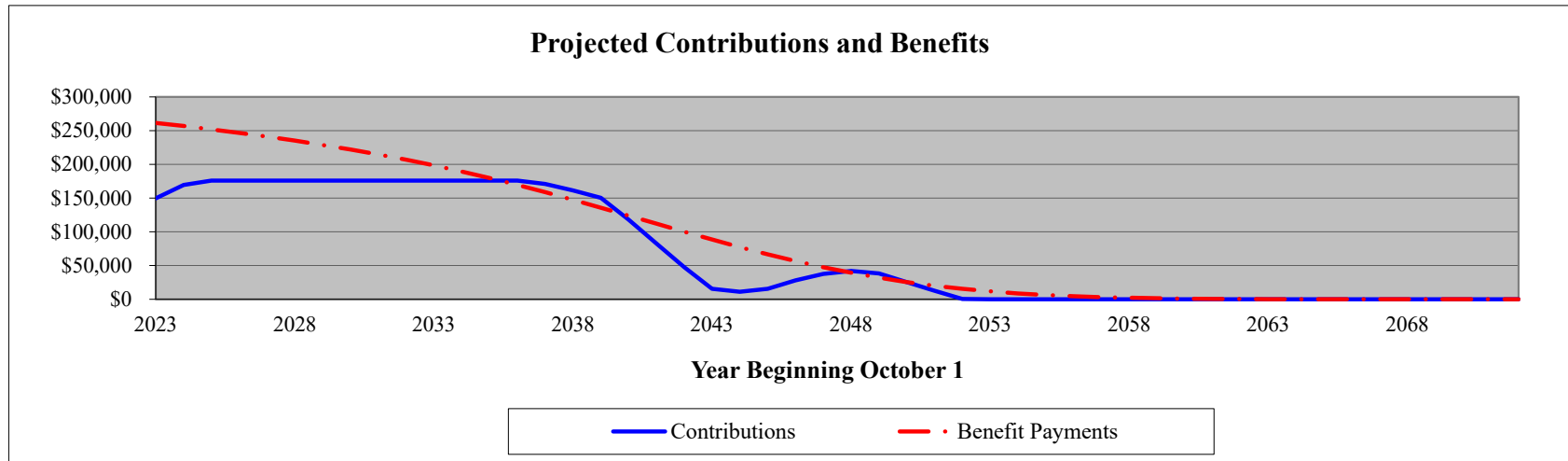
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 5.50% on Investments)

<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>
2023	\$105,338,858	\$638,979	0.00167	\$149,712	\$261,359	\$32,115	(\$79,532)	\$559,447	2024
2024	105,338,858	559,447	0.00167	169,596	256,775	28,404	(58,775)	500,672	2025
2025	105,338,858	500,672	0.00167	175,916	251,896	25,475	(50,505)	450,167	2026
2026	105,338,858	450,167	0.00167	175,916	246,695	22,839	(47,940)	402,226	2027
2027	105,338,858	402,226	0.00167	175,916	241,138	20,353	(44,869)	357,357	2028
2028	105,338,858	357,357	0.00167	175,916	235,188	18,046	(41,226)	316,131	2029
2029	105,338,858	316,131	0.00167	175,916	228,816	15,952	(36,948)	279,183	2030
2030	105,338,858	279,183	0.00167	175,916	221,987	14,105	(31,966)	247,217	2031
2031	105,338,858	247,217	0.00167	175,916	214,663	12,546	(26,201)	221,016	2032
2032	105,338,858	221,016	0.00167	175,916	206,800	11,318	(19,566)	201,450	2033
2037	105,338,858	209,765	0.00151	171,050	158,652	11,873	24,271	234,036	2038
2042	105,338,858	286,392	0.00095	47,487	100,220	14,321	(38,412)	247,980	2043
2047	105,338,858	58,580	0.00045	37,757	47,555	2,956	(6,842)	51,739	2048
2052	105,338,858	66,583	0.00015	400	15,510	3,252	(11,858)	54,725	2053
2057	105,338,858	32,151	0.00003	0	3,138	1,683	(1,455)	30,696	2058
2062	105,338,858	32,269	0.00000	0	348	1,765	1,417	33,686	2063
2067	105,338,858	41,242	0.00000	0	18	2,268	2,250	43,492	2068
2072	105,338,858	53,861	0.00000	0	0	2,962	2,962	56,822	2073



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)

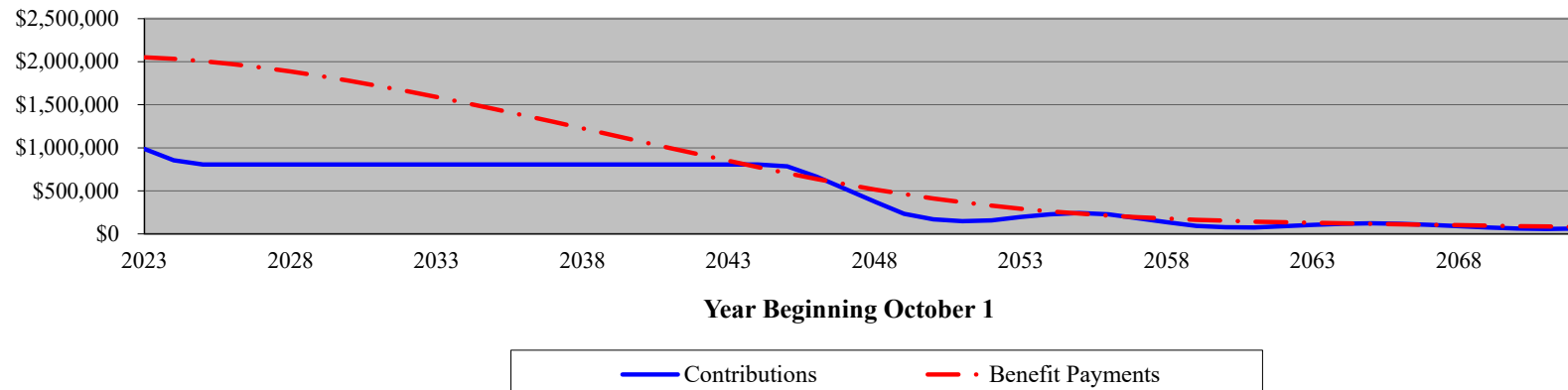
Year Beginning <u>July 1</u>	Value of Assessed Property	MVA Balance <u>July 1</u>	Millage Rate	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	MVA Balance <u>June 30</u>	Year Ending <u>June 30</u>
2023	\$366,810,051	\$10,806,437	0.00220	\$986,884	\$2,051,217	\$565,477	(\$498,856)	\$10,307,581	2024
2024	366,810,051	10,307,581	0.00220	853,750	2,033,444	534,910	(644,784)	9,662,798	2025
2025	366,810,051	9,662,798	0.00220	806,982	2,007,449	498,883	(701,584)	8,961,213	2026
2026	366,810,051	8,961,213	0.00220	806,982	1,973,963	461,204	(705,777)	8,255,436	2027
2027	366,810,051	8,255,436	0.00220	806,982	1,933,744	423,478	(703,284)	7,552,152	2028
2028	366,810,051	7,552,152	0.00220	806,982	1,887,548	386,051	(694,515)	6,857,637	2029
2029	366,810,051	6,857,637	0.00220	806,982	1,836,102	349,248	(679,872)	6,177,765	2030
2030	366,810,051	6,177,765	0.00220	806,982	1,780,072	313,375	(659,715)	5,518,049	2031
2031	366,810,051	5,518,049	0.00220	806,982	1,720,054	278,719	(634,353)	4,883,696	2032
2032	366,810,051	4,883,696	0.00220	806,982	1,656,561	245,553	(604,026)	4,279,670	2033
2037	366,810,051	2,259,663	0.00220	806,982	1,301,961	110,852	(384,127)	1,875,536	2038
2042	366,810,051	940,953	0.00220	806,982	921,878	48,635	(66,261)	874,692	2043
2047	366,810,051	1,182,857	0.00157	522,586	575,728	63,615	10,473	1,193,330	2048
2052	366,810,051	552,746	0.00089	157,786	327,932	25,785	(144,361)	408,386	2053
2057	366,810,051	372,064	0.00053	180,263	193,610	20,101	6,754	378,818	2058
2062	366,810,051	186,175	0.00037	90,292	135,178	9,022	(35,864)	150,310	2063
2067	366,810,051	168,809	0.00029	104,527	106,025	9,244	7,746	176,554	2068
2072	366,810,051	119,381	0.00022	61,720	80,987	6,043	(13,224)	106,157	2073



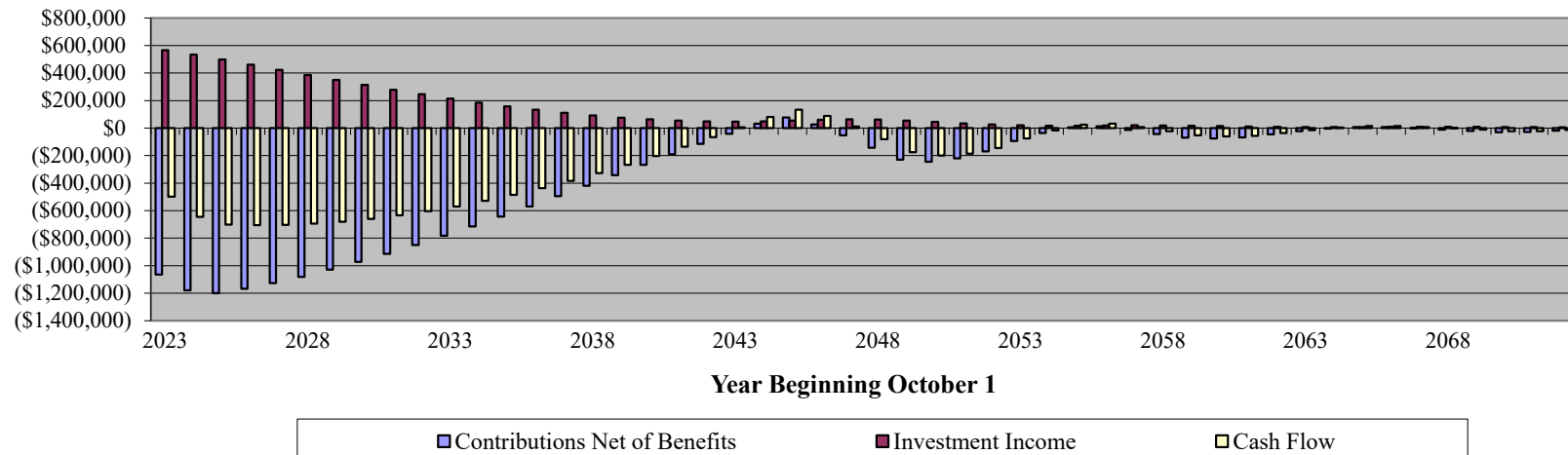
Mississippi Municipal Retirement Systems
City of Meridian

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Natchez**

Cash Flow Projection

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

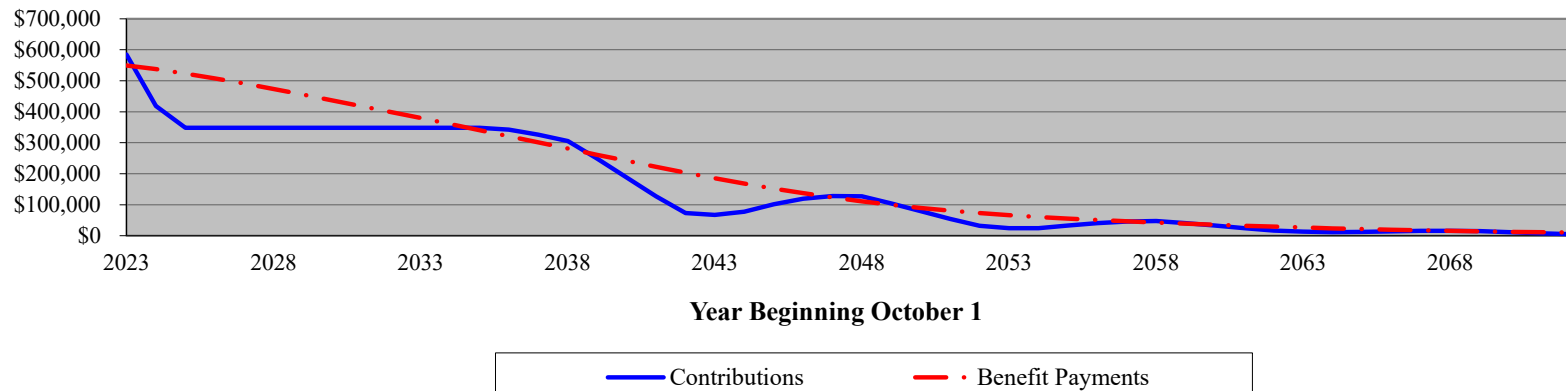
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$278,349,768	\$1,002,881	0.00125	\$584,654	\$549,361	\$56,116	\$91,409	\$1,094,289	2024
2024	278,349,768	1,094,289	0.00125	418,221	537,545	56,948	(62,376)	1,031,913	2025
2025	278,349,768	1,031,913	0.00125	347,937	523,559	51,990	(123,632)	908,281	2026
2026	278,349,768	908,281	0.00125	347,937	507,950	45,614	(114,399)	793,882	2027
2027	278,349,768	793,882	0.00125	347,937	491,163	39,777	(103,449)	690,432	2028
2028	278,349,768	690,432	0.00125	347,937	473,549	34,566	(91,046)	599,387	2029
2029	278,349,768	599,387	0.00125	347,937	455,372	30,051	(77,384)	522,003	2030
2030	278,349,768	522,003	0.00125	347,937	436,809	26,299	(62,573)	459,430	2031
2031	278,349,768	459,430	0.00125	347,937	417,966	23,369	(46,660)	412,770	2032
2032	278,349,768	412,770	0.00125	347,937	398,901	21,320	(29,644)	383,126	2033
2037	278,349,768	452,802	0.00108	325,648	300,869	25,576	50,355	503,158	2038
2042	278,349,768	482,926	0.00073	72,851	203,706	23,011	(107,844)	375,082	2043
2047	278,349,768	143,755	0.00044	127,832	123,475	8,025	12,382	156,138	2048
2052	278,349,768	178,914	0.00026	32,232	73,207	8,729	(32,246)	146,668	2053
2057	278,349,768	53,946	0.00017	45,428	46,392	2,941	1,977	55,923	2058
2062	278,349,768	65,393	0.00011	16,500	29,252	3,251	(9,501)	55,893	2063
2067	278,349,768	23,287	0.00006	15,383	17,234	1,231	(620)	22,667	2068
2072	278,349,768	24,493	0.00004	5,100	10,473	1,201	(4,172)	20,321	2073



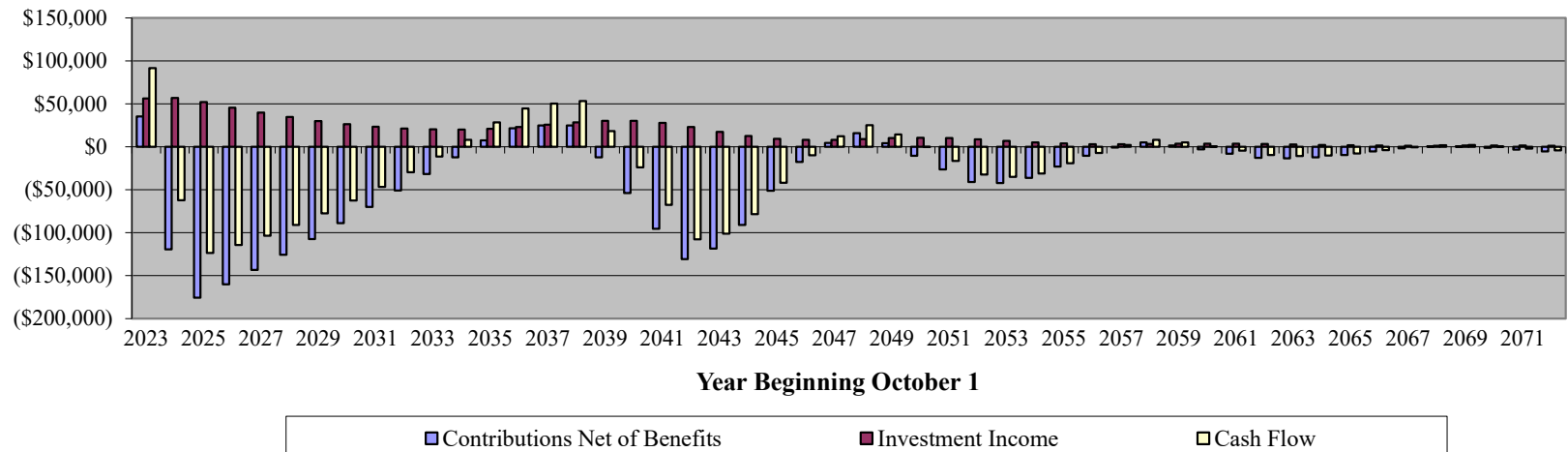
Mississippi Municipal Retirement Systems
City of Natchez

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Pascagoula**

Cash Flow Projection

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

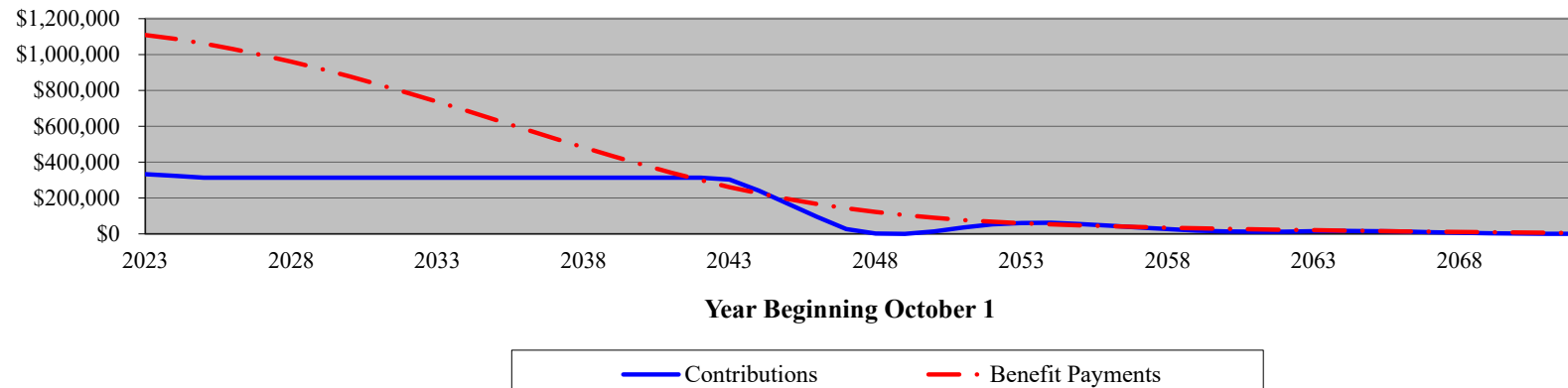
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$256,612,126	\$6,280,849	0.00122	\$332,956	\$1,108,866	\$324,395	(\$451,515)	\$5,829,335	2024
2024	256,612,126	5,829,335	0.00122	323,973	1,087,333	299,902	(463,458)	5,365,877	2025
2025	256,612,126	5,365,877	0.00122	313,067	1,060,927	274,832	(473,028)	4,892,849	2026
2026	256,612,126	4,892,849	0.00122	313,067	1,030,698	249,636	(467,995)	4,424,854	2027
2027	256,612,126	4,424,854	0.00122	313,067	996,960	224,812	(459,081)	3,965,773	2028
2028	256,612,126	3,965,773	0.00122	313,067	959,989	200,565	(446,357)	3,519,415	2029
2029	256,612,126	3,519,415	0.00122	313,067	920,044	177,099	(429,878)	3,089,537	2030
2030	256,612,126	3,089,537	0.00122	313,067	877,392	154,613	(409,712)	2,679,826	2031
2031	256,612,126	2,679,826	0.00122	313,067	832,323	133,302	(385,954)	2,293,871	2032
2032	256,612,126	2,293,871	0.00122	313,067	785,162	113,354	(358,741)	1,935,130	2033
2037	256,612,126	833,267	0.00122	313,067	532,791	39,868	(179,856)	653,411	2038
2042	256,612,126	358,413	0.00117	313,067	299,852	20,071	33,286	391,699	2043
2047	256,612,126	451,140	0.00056	27,026	142,551	21,678	(93,847)	357,293	2048
2052	256,612,126	53,083	0.00026	53,128	67,596	2,527	(11,941)	41,141	2053
2057	256,612,126	73,996	0.00015	36,209	38,472	4,008	1,745	75,741	2058
2062	256,612,126	38,616	0.00009	12,160	22,963	1,831	(8,972)	29,645	2063
2067	256,612,126	27,004	0.00005	9,960	11,975	1,431	(584)	26,421	2068
2072	256,612,126	10,701	0.00002	1,091	4,883	486	(3,306)	7,395	2073



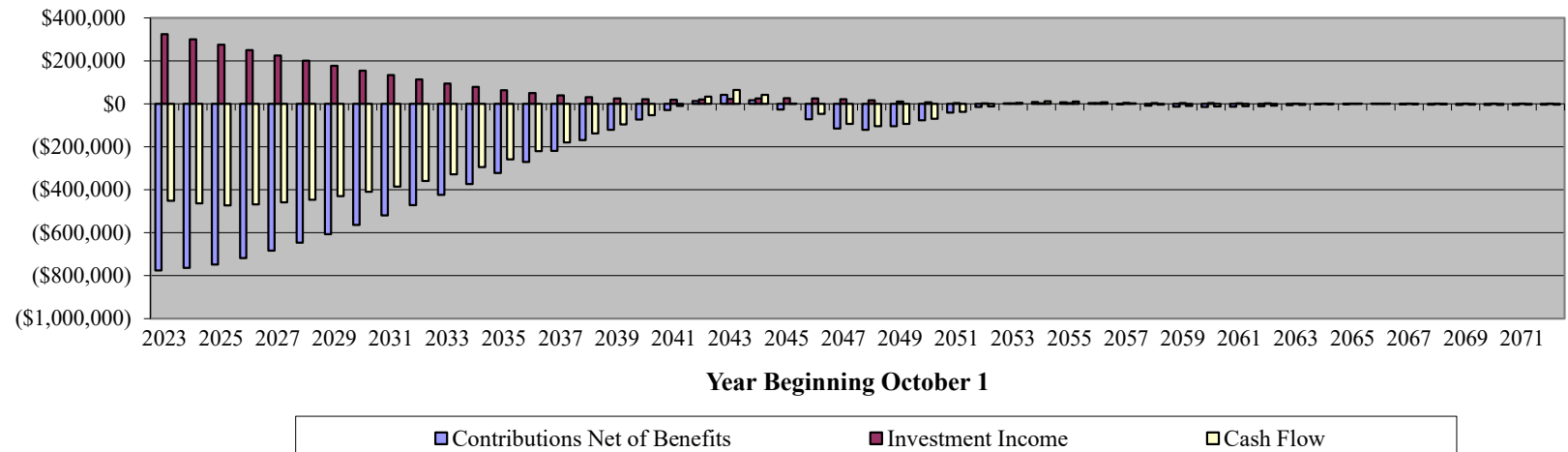
Mississippi Municipal Retirement Systems
City of Pascagoula

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Tupelo**

Cash Flow Projection

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

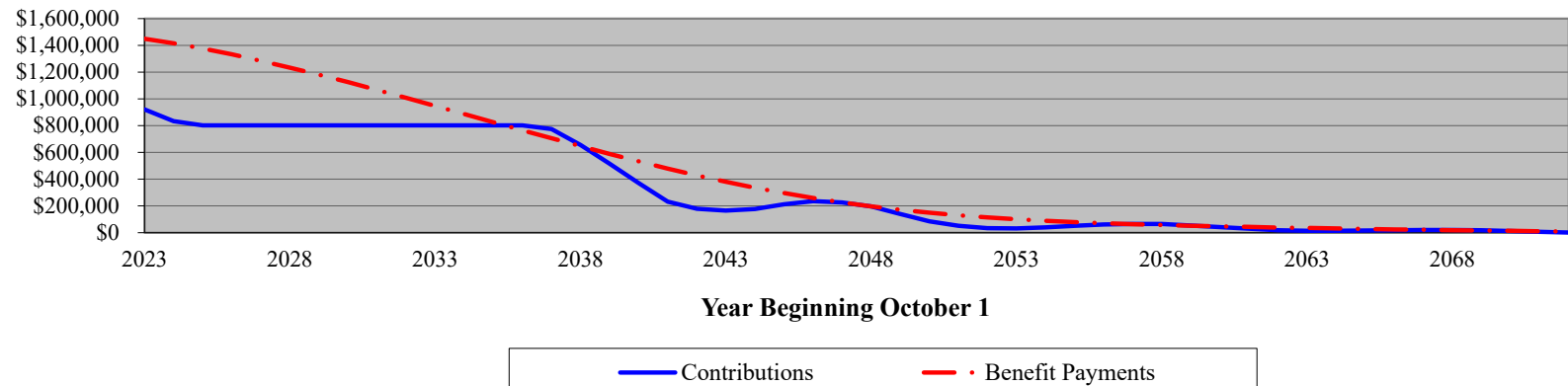
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$577,164,739	\$4,080,013	0.00139	\$921,126	\$1,449,206	\$210,073	(\$318,007)	\$3,762,006	2024
2024	577,164,739	3,762,006	0.00139	834,003	1,415,125	191,143	(389,979)	3,372,027	2025
2025	577,164,739	3,372,027	0.00139	802,259	1,375,990	169,895	(403,836)	2,968,191	2026
2026	577,164,739	2,968,191	0.00139	802,259	1,332,363	148,868	(381,236)	2,586,955	2027
2027	577,164,739	2,586,955	0.00139	802,259	1,284,836	129,189	(353,388)	2,233,568	2028
2028	577,164,739	2,233,568	0.00139	802,259	1,233,995	111,132	(320,604)	1,912,963	2029
2029	577,164,739	1,912,963	0.00139	802,259	1,180,386	94,954	(283,173)	1,629,790	2030
2030	577,164,739	1,629,790	0.00139	802,259	1,124,510	80,895	(241,356)	1,388,435	2031
2031	577,164,739	1,388,435	0.00139	802,259	1,066,832	69,186	(195,387)	1,193,048	2032
2032	577,164,739	1,193,048	0.00139	802,259	1,007,780	60,041	(145,480)	1,047,568	2033
2037	577,164,739	1,036,707	0.00122	774,833	705,626	58,897	128,104	1,164,811	2038
2042	577,164,739	939,671	0.00074	178,986	428,591	44,910	(204,695)	734,975	2043
2047	577,164,739	350,439	0.00039	225,747	226,198	19,262	18,811	369,250	2048
2052	577,164,739	271,330	0.00020	34,145	114,208	12,751	(67,312)	204,019	2053
2057	577,164,739	74,377	0.00011	65,708	63,418	4,153	6,443	80,820	2058
2062	577,164,739	91,654	0.00007	18,159	38,739	4,483	(16,097)	75,557	2063
2067	577,164,739	28,064	0.00004	20,443	21,794	1,507	156	28,220	2068
2072	577,164,739	32,681	0.00002	1,044	8,986	1,582	(6,360)	26,321	2073



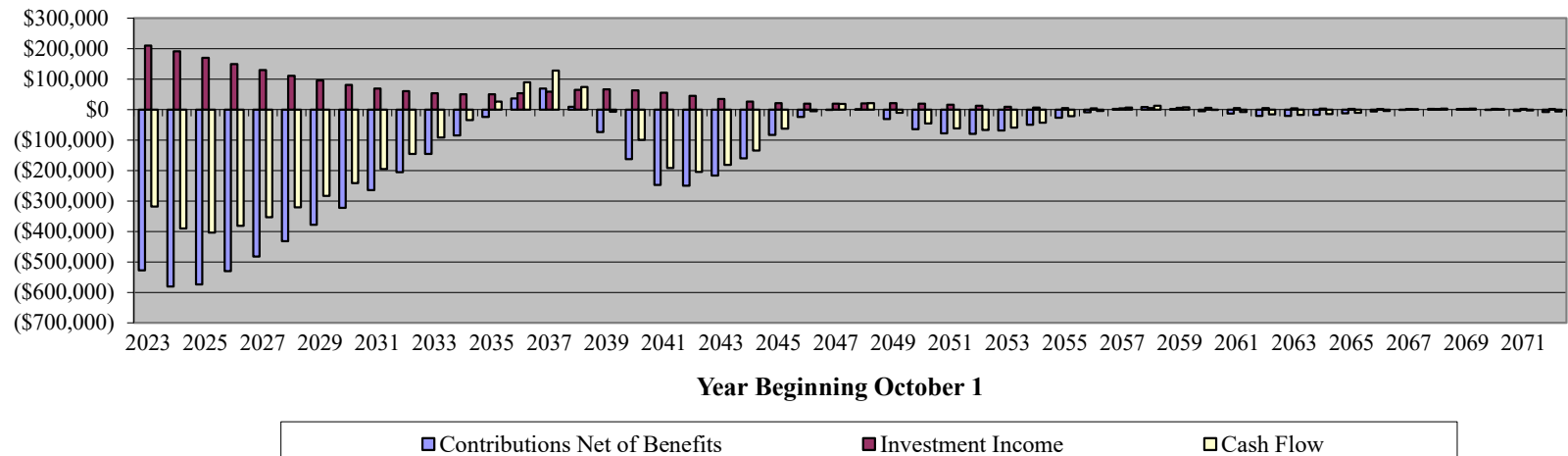
Mississippi Municipal Retirement Systems
City of Tupelo

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Vicksburg**

Cash Flow Projection

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

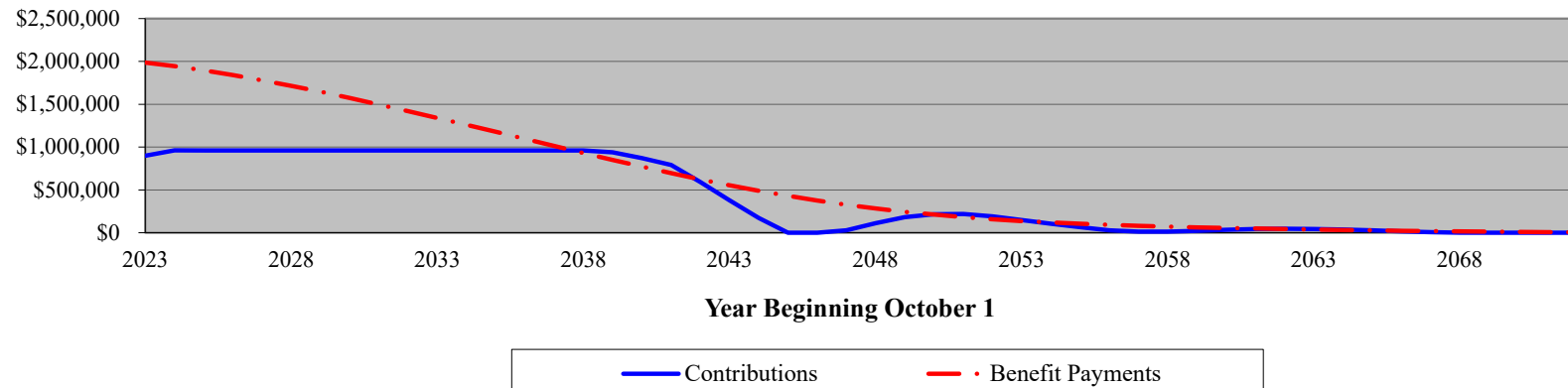
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$351,588,059	\$7,269,221	0.00273	\$899,949	\$1,985,940	\$370,342	(\$715,649)	\$6,553,573	2024
2024	351,588,059	6,553,573	0.00273	961,593	1,944,849	333,769	(649,487)	5,904,086	2025
2025	351,588,059	5,904,086	0.00273	959,835	1,896,093	299,322	(636,936)	5,267,149	2026
2026	351,588,059	5,267,149	0.00273	959,835	1,840,775	265,792	(615,148)	4,652,002	2027
2027	351,588,059	4,652,002	0.00273	959,835	1,779,904	233,610	(586,459)	4,065,543	2028
2028	351,588,059	4,065,543	0.00273	959,835	1,714,392	203,132	(551,425)	3,514,118	2029
2029	351,588,059	3,514,118	0.00273	959,835	1,645,010	174,686	(510,489)	3,003,629	2030
2030	351,588,059	3,003,629	0.00273	959,835	1,572,386	148,580	(463,971)	2,539,658	2031
2031	351,588,059	2,539,658	0.00273	959,835	1,497,054	125,105	(412,114)	2,127,544	2032
2032	351,588,059	2,127,544	0.00273	959,835	1,419,488	104,544	(355,109)	1,772,435	2033
2037	351,588,059	1,019,731	0.00273	959,835	1,012,790	54,648	1,693	1,021,424	2038
2042	351,588,059	1,605,912	0.00177	591,829	622,895	87,482	56,416	1,662,328	2043
2047	351,588,059	636,703	0.00093	27,246	326,732	26,893	(272,593)	364,109	2048
2052	351,588,059	215,351	0.00045	189,765	157,897	12,709	44,577	259,928	2053
2057	351,588,059	211,805	0.00023	12,767	80,536	9,811	(57,958)	153,848	2058
2062	351,588,059	39,613	0.00012	45,880	43,067	2,255	5,068	44,681	2063
2067	351,588,059	60,560	0.00005	7,257	19,306	3,004	(9,045)	51,515	2068
2072	351,588,059	13,792	0.00002	0	5,637	606	(5,031)	8,761	2073



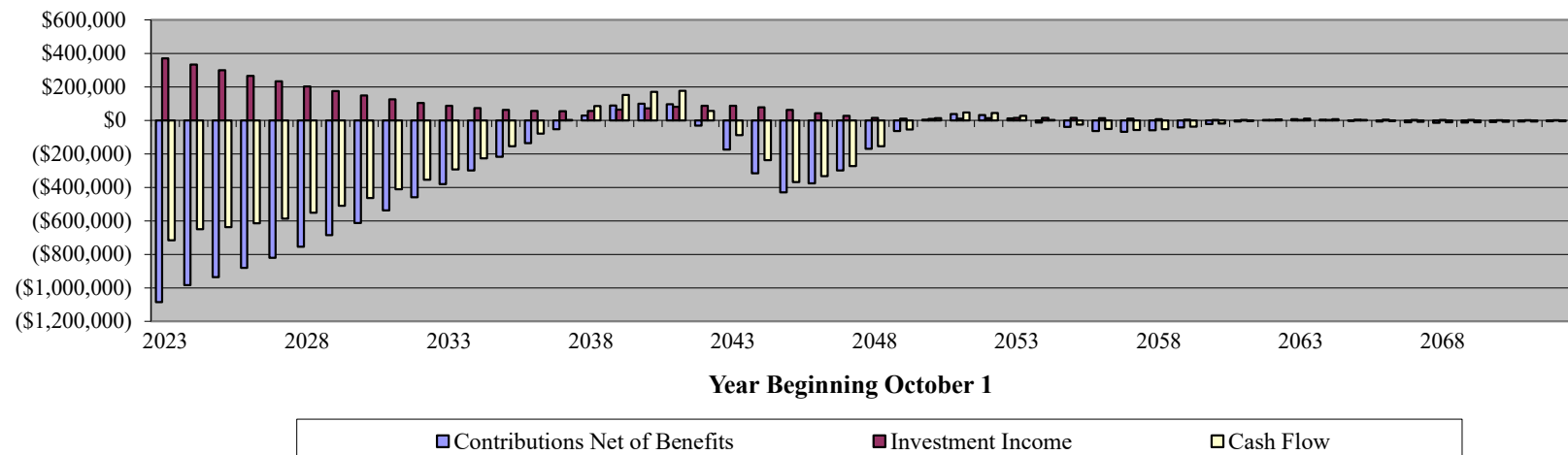
Mississippi Municipal Retirement Systems
City of Vicksburg

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**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)

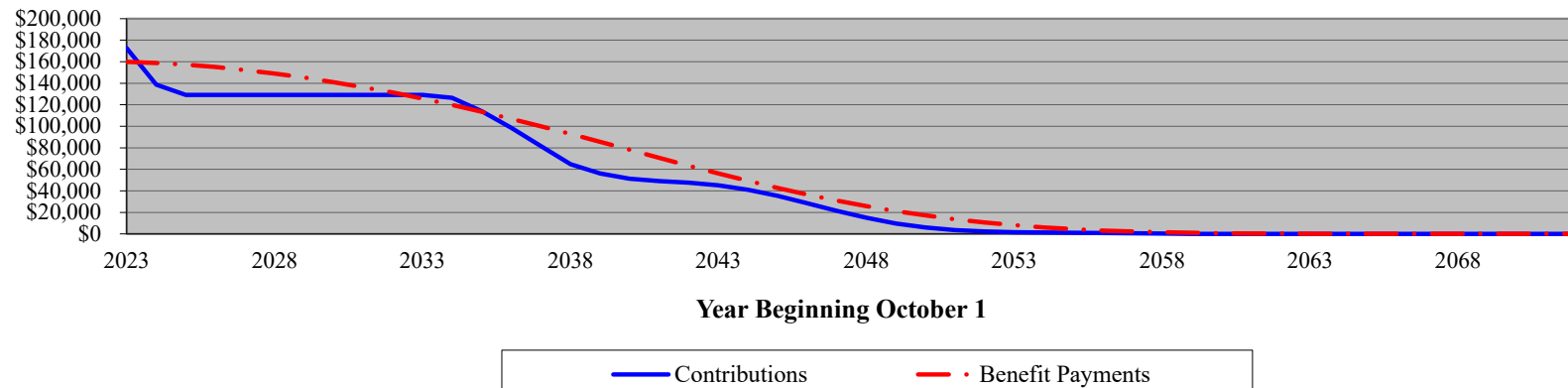
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2023	\$55,418,778	\$195,113	0.00233	\$172,603	\$159,912	\$11,076	\$23,767	\$218,880	2024
2024	55,418,778	218,880	0.00233	138,824	158,897	11,494	(8,579)	210,301	2025
2025	55,418,778	210,301	0.00233	129,126	157,260	10,803	(17,331)	192,969	2026
2026	55,418,778	192,969	0.00233	129,126	155,036	9,910	(16,000)	176,969	2027
2027	55,418,778	176,969	0.00233	129,126	152,264	9,106	(14,032)	162,937	2028
2028	55,418,778	162,937	0.00233	129,126	148,984	8,423	(11,435)	151,502	2029
2029	55,418,778	151,502	0.00233	129,126	145,226	7,896	(8,204)	143,298	2030
2030	55,418,778	143,298	0.00233	129,126	141,009	7,559	(4,324)	138,974	2031
2031	55,418,778	138,974	0.00233	129,126	136,345	7,448	229	139,202	2032
2032	55,418,778	139,202	0.00233	129,126	131,249	7,599	5,476	144,678	2033
2037	55,418,778	182,946	0.00180	81,620	100,021	9,563	(8,838)	174,108	2038
2042	55,418,778	96,810	0.00114	47,602	63,348	4,897	(10,849)	85,961	2043
2047	55,418,778	67,280	0.00056	21,408	30,971	3,441	(6,122)	61,158	2048
2052	55,418,778	27,142	0.00019	2,230	10,594	1,266	(7,098)	20,044	2053
2057	55,418,778	5,900	0.00004	579	2,162	282	(1,301)	4,599	2058
2062	55,418,778	2,079	0.00000	0	218	108	(110)	1,969	2063
2067	55,418,778	2,150	0.00000	0	10	118	109	2,259	2068
2072	55,418,778	2,789	0.00000	0	0	153	153	2,941	2073



Mississippi Municipal Retirement Systems
City of Yazoo City

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values

