



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, 2021





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

December 8, 2021

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, 2022. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2021.

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 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 extended contributions beyond 2020 and generated 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, 2020. The changes are summarized on page 2 of this report.

Since the previous valuation, there was one change made to the benefit provisions. The City of Tupelo granted a 1% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2020.



Board of Trustees
December 8, 2021
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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.

We note that as we are preparing this report, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in the future of any adjustments that we believe would be appropriate due to the pandemic.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

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, 2021

1. This report, prepared as of June 30, 2021, presents the results of the annual actuarial valuation of the 17 Systems. 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 reflects any amendments to the Systems effective through July 1, 2021. Please note that the Plan has only retired members remaining.

VALUATION DATE	June 30, 2021	June 30, 2020
Retirees		
Number	1,510	1,585
Annual allowances	\$ 30,845,547	\$ 31,819,367
Assets		
Market related actuarial value	\$ 140,258,345	\$ 140,731,034
Market value	\$ 159,572,184	\$ 136,780,881
Unfunded Accrued Liability	\$ 134,167,637	\$ 145,705,405

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, contributions are extended past 2020 and an employer contribution rate, expressed as a millage rate tax applied to assessed property values, is established 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 6.05% assumption on investment earnings and an assumption that assessed property values will remain level over time. 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, various economic and demographic assumptions have been revised. The changes are summarized below and shown in more detail in Schedule B:
 - Changes were made to the Mortality Table for both healthy and disabled lives.
 - The investment rate of return assumption was reduced from 7.75% to 7.55%.
 - The investment return assumption to calculate the certified millage rates was lowered from 6.25% to 6.05% to maintain a 150 basis point difference with the long-term investment return assumption.
6. Schedule C details the summary of benefit and contribution provisions of the Plan. Since the previous valuation, the following changes were made to the benefit provisions:
 - The City of Tupelo granted a 1% ad-hoc benefit increase for members who were retired for at least one full fiscal year as of September 30, 2020.
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 (\$ thousands)	Average Salary	% increase from previous year	Number	Active/ Retired Ratio	Annual Benefits (\$ thousands)	Benefits as % of Payroll	Accrued Liability	Valuation Assets	Unfunded Accrued Liability
2012	21	\$1,131	\$53,869	(0.7)%	1,978	.01	\$35,097.3	3,103.2%	\$356,571	\$155,484	\$201,087
2013	16	794	49,615	(7.9)	1,941	.01	35,105.9	4,421.4	349,588	153,241	196,347
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

* Valuation date was as of September 30 for years prior to 2013.



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 are still 1,510 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, 2021 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	34	5	40	79	\$1,973,214
Clarksdale	24	1	21	46	593,061
Clinton	27	0	5	32	917,050
Columbus	34	2	29	65	1,065,740
Greenville	32	0	28	60	831,300
Greenwood	25	0	23	48	707,701
Gulfport	41	8	29	78	1,747,664
Hattiesburg	90	6	39	135	3,289,229
Jackson	291	4	205	500	10,835,489
Laurel	43	2	22	67	906,768
McComb	10	1	6	17	264,388
Meridian	90	1	53	144	2,175,044
Natchez	20	3	16	39	602,950
Pascagoula	33	3	23	59	1,233,026
Tupelo	41	0	32	73	1,488,345
Vicksburg	27	2	29	58	2,017,147
Yazoo City	8	0	2	10	197,431
Total in MRS	870	38	602	1,510	\$30,845,547



Section III - Computed Employer Contribution Rates

**Mississippi Municipal Retirement Systems
Computed Employer Contribution Rates¹
As of June 30, 2021 for the 2023 Fiscal Year End**

Municipality	Certified Rate for Fiscal Year Ending 9/30/2022	Current Millage Rate for Fiscal Year Ending 9/30/2022	Calculated Rate for Fiscal Year Ending 9/30/2023	Certified Rate ² for Fiscal Year Ending 9/30/2023
Biloxi	1.81	1.90	1.71	1.71
Clarksdale	5.38	5.38	4.72	4.72
Clinton	0.93	0.93	0.35	0.35
Columbus	5.35	5.35	5.09	5.09
Greenville	2.58	2.58	1.89	1.89
Greenwood	3.28	3.28	2.62	2.62
Gulfport	1.06	1.23	0.91	0.91
Hattiesburg	2.86	2.86	2.03	2.03
Jackson	3.79	3.79	2.65	2.65
Laurel	2.10	2.60	1.18	1.18
McComb	1.65	1.90	1.05	1.05
Meridian	2.02	2.50	1.18	1.18
Natchez	3.06	3.90	2.26	2.26
Pascagoula	1.57	1.57	1.07	1.07
Tupelo	1.53	1.61	1.24	1.24
Vicksburg	3.13	3.13	2.25	2.25
Yazoo City ³	2.93	2.93	3.60	3.43

¹ Millage rates applied to assessed property

² Calculated using cash flow projections and 6.05% investment return assumption (see Schedule H)

³ The certified rate for the 2023 fiscal year for Yazoo City is limited to the ½ millage increase limit per plan statutes

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	2016	2017	2018	2019	2020	Average % Increase
Biloxi	\$574,544,932	\$592,181,786	\$579,988,410	\$585,246,074	\$593,305,051	0.8
Clarksdale	85,193,003	83,414,667	84,564,374	83,760,178	82,849,209	(0.7)
Clinton	208,729,466	207,772,348	215,682,895	216,824,192	215,400,746	0.8
Columbus	199,814,257	208,552,785	203,048,379	207,384,299	207,520,472	1.0
Greenville	198,785,980	193,778,841	198,137,988	201,216,099	205,375,459	0.8
Greenwood	110,569,319	113,719,820	115,001,002	115,862,323	106,864,240	(0.8)
Gulfport	737,909,261	749,196,904	761,757,224	805,811,344	816,814,675	2.6
Hattiesburg	437,346,637	470,026,110	467,912,761	473,044,936	482,280,326	2.5
Jackson	1,197,598,015	1,201,390,327	1,207,182,951	1,252,499,510	1,251,727,960	1.1
Laurel	166,322,618	180,736,668	182,758,430	188,151,450	197,898,826	4.4
McComb	100,951,928	102,003,113	102,851,829	106,190,926	102,885,698	0.5
Meridian	342,244,755	341,865,756	347,111,909	355,154,627	365,967,586	1.7
Natchez	139,808,455	153,395,477	128,903,757	124,775,441	133,225,319	(1.2)
Pascagoula	234,224,731	235,913,098	245,159,735	228,725,988	227,131,210	(0.8)
Tupelo	497,690,205	497,231,537	505,969,659	520,896,796	545,794,918	2.3
Vicksburg	326,807,260	327,183,714	322,506,308	288,172,230	308,408,615	(1.4)
Yazoo City	49,956,737	49,268,781	52,021,220	54,792,825	55,250,160	2.5



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, 2022 for one of the municipalities is less than the certified rate for the fiscal year ending September 30, 2023 under the funding policy. Therefore, Yazoo City needs to increase their millage rate to the certified millage rate for the fiscal year ending September 30, 2023.

2. As shown in the analysis of experience on pages 29 and 30, the System had an actuarial gain for the year. The gain was primarily due to the investment return on the assets for the year being more than expected. There were additional gains due to more deaths than expected for the year as well as the change in actuarial assumptions from the recommendations of the experience study for the 4-year period ending on June 30, 2020.

3. From 2019 to 2020, the value of assessed property increased for eleven and decreased for six 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, 2021**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	1,510
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Inactive Participants	0
Active Participants	<u>0</u>
Total	1,510



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	\$20,671,110	\$8,378,358	\$12,292,752	40.53%
Clarksdale	5,092,849	1,052,520	4,040,329	20.67%
Clinton	10,237,242	9,101,862	1,135,380	88.91%
Columbus	9,007,626	1,218,267	7,789,359	13.52%
Greenville	7,020,137	2,534,826	4,485,311	36.11%
Greenwood	5,855,399	2,593,523	3,261,876	44.29%
Gulfport	16,877,387	7,401,781	9,475,606	43.86%
Hattiesburg	33,086,450	19,902,137	13,184,313	60.15%
Jackson	89,616,360	47,481,374	42,134,986	52.98%
Laurel	8,281,691	4,839,715	3,441,976	58.44%
McComb	2,444,514	1,041,309	1,403,205	42.60%
Meridian	18,277,654	11,964,370	6,313,284	65.46%
Natchez	5,371,007	1,657,904	3,713,103	30.87%
Pascagoula	10,503,666	7,175,033	3,328,633	68.31%
Tupelo	12,667,226	4,790,130	7,877,096	37.82%
Vicksburg	17,588,815	8,941,839	8,646,976	50.84%
Yazoo City	1,826,849	183,397	1,643,452	10.04%
Totals	\$274,425,982	\$140,258,345	\$134,167,637	51.11%

During the year ended June 30, 2021, the Systems experienced a net decrease of \$12,010,457 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 funded ratio has begun to slowly improve in recent years. 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) Percent Funded (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
09/30/12	\$155,484	\$356,571	43.6%	\$201,087	\$1,131	17,779.6%
06/30/13	153,241	349,588	43.8	196,347	794	24,728.8
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

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									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Biloxi	39.41%	38.18%	39.49%	39.55%	40.41%	41.27%	44.17%	44.50%	42.30%	40.53%
Clarksdale	19.99	23.82	23.18	26.51	27.32	26.80	26.10	22.74	20.74	20.67
Clinton	75.02	74.38	79.09	82.74	84.38	87.19	87.20	87.00	87.03	88.91
Columbus	10.74	11.29	13.10	10.54	9.82	9.49	9.76	10.09	11.35	13.52
Greenville	34.25	34.11	36.12	36.64	35.56	35.41	34.58	34.19	32.93	36.11
Greenwood	34.72	35.05	36.61	38.27	39.47	40.56	41.40	41.18	40.60	44.29
Gulfport	46.37	45.03	46.99	47.63	47.01	47.60	48.56	49.64	46.86	43.86
Hattiesburg	54.17	53.82	56.90	58.53	58.29	58.68	59.86	58.67	58.27	60.15
Jackson	48.80	48.35	50.83	51.49	50.95	51.24	52.25	51.17	49.89	52.98
Laurel	26.79	29.51	33.03	36.20	40.17	40.07	43.23	45.54	48.56	58.44
McComb	27.48	25.52	24.99	25.49	25.94	27.40	30.28	31.83	32.85	42.60
Meridian	31.22	33.90	38.17	42.40	48.51	55.76	59.84	62.08	61.95	65.46
Natchez	28.55	30.03	30.21	29.61	30.24	29.45	27.79	30.54	29.98	30.87
Pascagoula	50.75	52.53	57.57	59.64	60.57	62.75	66.07	67.89	68.11	68.31
Tupelo	42.81	42.51	44.96	44.31	43.82	43.26	42.41	39.79	37.49	37.82
Vicksburg	47.83	49.26	52.08	53.82	53.77	53.02	53.64	49.63	50.22	50.84
Yazoo City	22.32	21.96	16.66	20.20	18.42	17.25	19.12	17.49	16.95	10.04



Section V - Supplemental Disclosure Information

4. In determining the actuarially determined employer contribution for GASB purposes, the accrued liability amount is based on the amortization of the unfunded actuarial accrued liability over a closed period from the valuation date. The period as of June 30, 2021 is 13 years. The calculation of this amount is shown below.

**2021/2022 FISCAL YEAR
ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)
BASED ON THE VALUATION AS OF JUNE 30, 2021**

ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)	
Normal	\$ 0
Accrued liability	<u>16,557,357</u>
Total	\$ 16,557,357

5. Additional information as of June 30, 2021 follows.

Valuation date	6/30/2021
Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	13 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.55%
*Includes price inflation at	2.40%
Cost of living adjustments	2.00% - 3.75% depending upon municipality



Section V - Supplemental Disclosure Information

Schedule of Employer Contributions

Fiscal Year 10/1-9/30	Valuation date	Actuarially Determined Contribution	Percentage Contributed
2012-13	9/30/2012	\$19,511,877	102.6%
2013-14	6/30/2013	19,343,836	105.4
2014-15	6/30/2014	18,337,572	105.5
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	N/A
2021-22	6/30/2021	16,557,357	N/A

Contributions Required and Contributions Made

Municipality	Actuarially Determined Contribution	Actual 2019 – 2020 Contribution	Percentage Contributed
Biloxi	\$1,220,849	\$1,181,694	96.8%
Clarksdale	488,689	419,051	85.8
Clinton	154,858	343,065	221.5
Columbus	988,138	1,140,811	115.5
Greenville	607,234	537,969	88.6
Greenwood	452,380	368,513	81.5
Gulfport	1,030,603	521,352	50.6
Hattiesburg	1,625,577	1,358,079	83.5
Jackson	5,506,705	5,114,519	92.9
Laurel	578,925	814,708	140.7
McComb	232,265	267,158	115.0
Meridian	862,363	982,674	114.0
Natchez	471,061	468,000	99.4
Pascagoula	393,262	726,862	184.8
Tupelo	889,931	837,487	94.1
Vicksburg	1,074,704	1,365,617	127.1
Yazoo City	200,064	166,020	83.0
Total	\$ 16,777,608	\$ 16,613,580	99.0%



Section V - Supplemental Disclosure Information

Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Number	Annual Payroll	Active Members	
				Annual Average Pay	% Increase in Average Pay
9/30/12	17	21	\$1,131,252	\$53,869	(0.7)%
6/30/13	17	16	793,841	49,615	(7.9)
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

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

Item	Fiscal Year Ended September 30									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning of Year	2,016	1,978	1,941	1,890	1,849	1,798	1,754	1,694	1,634	1,585
Added	39	40	29	40	46	34	36	37	34	34
Removed	(77)	(77)	(80)	(81)	(97)	(78)	(96)	(97)	(83)	(109)
End of Year	1,978	1,941	1,890	1,849	1,798	1,754	1,694	1,634	1,585	1,510

*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	2016	2017	2018	2019	2020	2021
Beginning of Year	\$34,478,364	\$34,088,404	\$33,751,528	\$32,997,690	\$32,423,308	\$31,819,367
Added	842,966	712,490	674,428	736,820	654,407	633,039
Removed	(1,365,194)	(1,174,872)	(1,530,600)	(1,441,224)	(1,386,860)	(1,724,751)
Benefit increase due to annual COLA	132,268	125,506	102,334	130,022	128,512	117,892
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	\$34,088,404	\$33,751,528	\$32,997,690	\$32,423,308	\$31,819,367	\$30,845,547



Section V - 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, 2020 to June 30, 2021									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Number of Active Retirants	0	0	0	0	0	0	0	0	0
July 1, 2019 to June 30, 2020									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,024	\$3,024
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,435	\$47,435
Number of Active Retirants	0	0	0	0	0	0	0	2	2
July 1, 2018 to June 30, 2019									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,427	\$3,427
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$53,998	\$53,998
Number of Active Retirants	0	0	0	0	0	0	0	2	2
July 1, 2017 to June 30, 2018									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,738	\$3,738
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$67,277	\$67,277
Number of Active Retirants	0	0	0	0	0	0	0	2	2
July 1, 2016 to June 30, 2017									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,424	\$2,424
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,631	\$43,631
Number of Active Retirants	0	0	0	0	0	0	0	2	2
July 1, 2015 to June 30, 2016									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,479	\$3,479
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$44,155	\$44,155
Number of Active Retirants	0	0	0	0	0	0	0	3	3



Schedule A - Development of Actuarial Value of Assets

	6/30/2020	6/30/2021	6/30/2022	6/30/2023	6/30/2024	6/30/2025
A. Actuarial Value Beginning of Year	\$147,670,934	\$140,731,034				
B. Market Value End of Year	136,780,881	159,572,184				
C. Market Value Beginning of Year	148,463,405	136,780,881				
D. Cash Flow						
D1. Contributions	16,621,094	14,906,920				
D2. Other Revenue	0	0				
D3. Benefit Payments	(32,169,935)	(31,335,975)				
D4. Administrative Expenses	(331,418)	(298,991)				
D5. Net	(15,880,259)	(16,728,046)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	4,197,735	39,519,349				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	10,890,554	9,952,306				
E4. Amount for Phased-In Recognition	(6,692,819)	29,567,043				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(1,338,564)	5,913,409	0	0	0	0
F2. First Prior Year	(199,247)	(1,338,564)	5,913,409	0	0	0
F3. Second Prior Year	74,382	(199,247)	(1,338,564)	5,913,409	0	0
F4. Third Prior Year	1,853,071	74,382	(199,247)	(1,338,564)	5,913,409	0
F5. Fourth Prior Year	<u>(2,339,837)</u>	<u>1,853,071</u>	<u>74,382</u>	<u>(199,247)</u>	<u>(1,338,564)</u>	<u>5,913,409</u>
F6. Total Recognized Investment Gain	(1,950,195)	6,303,051	4,449,980	4,375,598	4,574,845	5,913,409
G. Adjustment:	0	0				
H. Actuarial Value End of Year:						
A.+D5.+E3.+F6.+G.	\$140,731,034	\$140,258,345				
I. Difference Between Market & Actuarial Values	(3,950,153)	19,313,839	14,863,859	10,488,261	5,913,416	7

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

INTEREST RATE: 7.55% per annum, compounded annually (net after investment expenses) for GASB disclosure.

6.05% per annum, compounded annually (net after investment expenses) for employer contribution rate determination.

PRICE INFLATION: 2.40% per annum, compounded annually.

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

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, 2021, 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	<p>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.</p> <p>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.</p>
Death Benefit	
Conditions for Benefit	<p>A benefit is payable upon the death of a member under the following conditions:</p> <ul style="list-style-type: none">(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. <p>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.</p>
Amount of Benefit	<p>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.</p> <p>For general employee members under condition (c), the annual benefit payable is equal to 50% of salary at the time of death.</p>
Return of Contributions	<p>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.</p>



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.

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.



Schedule C - Summary of Benefit Provisions Evaluated

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.

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, 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	920	46	650	1,616
Refunded				
Deceased	(51)	(8)	(48)	(107)
Retired				
Added	1			1
For Valuation	870	38	602	1,510

STATUS RECONCILIATION FROM 2020 TO 2021

	Retirees	Disability	Survivor	Total
As of June 30, 2020	923	46	616	1,585
Retirements				
Disabilities				
Death with Survivors	(28)	(5)	34	1
Deaths with no Survivors	(25)	(3)	(48)	(76)
Benefits Expired				
Data Corrections				
As of June 30, 2021	870	38	602	1,510



Schedule D - Detailed Tabulations of Data

Retirants & Beneficiaries as of June 30, 2021

Tabulated by Year of Retirement

Year of Retirement	No.	Annual Benefits excluding COLA	COLA	Total Annual Benefits	Average Monthly Benefit
2021	0	\$ 0	\$ 0	\$ 0	\$ 0
2020	2	72,566	0	72,566	3,024
2019	3	96,451	2,056	98,507	2,736
2018	1	43,396	0	43,396	3,616
2017	2	76,266	2,711	78,977	3,291
2016	4	153,667	10,043	163,710	3,411
2015	1	25,335	0	25,335	2,111
2014	3	111,086	10,107	121,193	3,366
2013	9	364,151	48,804	412,955	3,824
2012	4	164,423	32,477	196,900	4,102
2011	0	0	0	0	0
2010	5	156,183	36,699	192,882	3,215
2009	3	79,418	6,048	85,466	2,374
2008	5	132,896	18,970	151,866	2,531
2007	7	224,464	65,006	289,470	3,446
2006	14	371,190	70,279	441,469	2,628
2005	27	708,241	138,081	846,322	2,612
2004	19	440,730	99,760	540,490	2,371
2003	31	811,542	197,505	1,009,047	2,712
2002	40	1,115,573	281,764	1,397,337	2,911
2001	23	658,626	142,996	801,622	2,904
2000	34	860,699	221,446	1,082,145	2,652
1999	34	815,678	187,485	1,003,163	2,459
1998	37	885,449	189,741	1,075,190	2,422
1997	51	1,105,955	202,123	1,308,078	2,137
1996	55	1,083,814	175,950	1,259,764	1,909
1995	98	1,709,156	280,782	1,989,938	1,692
1994	128	2,218,865	440,011	2,658,876	1,731
1993	89	1,508,111	315,512	1,823,623	1,708
1992	80	1,344,173	264,684	1,608,857	1,676
1991	70	1,184,473	201,135	1,385,608	1,650
1990	56	834,179	128,711	962,890	1,433
1989	41	560,018	125,545	685,563	1,393
1988	71	1,036,541	212,636	1,249,177	1,466
1987 & Prior	463	4,619,665	1,163,500	5,783,165	1,041
Totals	1,510	\$ 25,572,980	\$ 5,272,567	\$ 30,845,547	\$ 1,702



Schedule D - Detailed Tabulations of Data

Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2021

Amount of Monthly Benefit	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1 - \$300	8	1	1	6
301 - 600	60	10	2	48
601 - 900	166	60	10	96
901 - 1,200	296	129	16	151
1,201 - 1,500	194	120	7	67
1,501 - 1,800	219	141		78
1,801 - 2,100	141	100		41
2,101 - 2,400	137	97		40
2,401 - 2,700	77	56	1	20
Over 2,700	212	156	1	55
Totals	1,510	870	38	602

*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, 2021

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					2	30,569	2	30,569
55 – 59	12	\$390,090			5	111,924	17	502,014
60 – 64	31	914,990			26	515,941	57	1,430,931
65 – 69	113	3,042,033	6	\$83,631	48	951,233	167	4,076,897
70 – 74	272	6,590,862	11	153,717	103	1,994,270	386	8,738,849
75 – 79	181	3,981,061	6	64,108	138	2,443,281	325	6,488,450
80 – 84	138	2,801,299	11	141,146	130	2,215,995	279	5,158,440
85 – 89	83	1,589,553	3	25,574	89	1,361,575	175	2,976,702
90 – 94	37	623,797			51	688,164	88	1,311,961
95	1	6,402			3	22,955	4	29,357
96	1	2,826			3	33,936	4	36,762
97	1	11,027			1	6,402	2	17,429
98					1	7,500	1	7,500
99			1	10,777			1	10,777
100 & Over					1	6,779	1	6,779
Totals	870	\$19,953,940	38	\$478,953	602	\$10,412,654	1,510	\$30,845,547



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, 2021 is shown below.

		\$ Thousands
(1)	UAAL* as of beginning of year	\$ 145,705.4
(2)	Total normal cost from last valuation	0
(3)	Total contributions**	14,607.9
(4)	Interest accrual: $\{[(1) + (2)] \times .0775\} - [(3) \times .03803]$	<u>10,736.7</u>
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 141,834.2
(6)	Change due to plan amendments	120.6
(7)	Change due to new actuarial assumptions or methods	<u>(3,057.7)</u>
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 138,897.1
(9)	Actual UAAL as of end of year	\$ 134,167.6
(10)	Gain/(loss): (8) – (9)	\$ 4,729.5

*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 6/30/2021	\$ Gain (or Loss) For Year Ending 6/30/2020
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 0.0	\$ (105.1)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0	0.0
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.0	0.6
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	0.0	0.0
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	0.0	0.0
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	5,984.8	(1,900.3)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	3,928.4	1,845.0
Other. Miscellaneous gains and losses resulting from data adjustments, software programming, COLAs, etc.	<u>(5,183.7)</u>	<u>(176.8)</u>
Gain (or Loss) During Year From Financial Experience	\$4,729.5	\$(336.6)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>2,937.1</u>	<u>(2,438.7)</u>
Composite Gain (or Loss) During Year	\$7,666.6	\$(2,775.3)



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

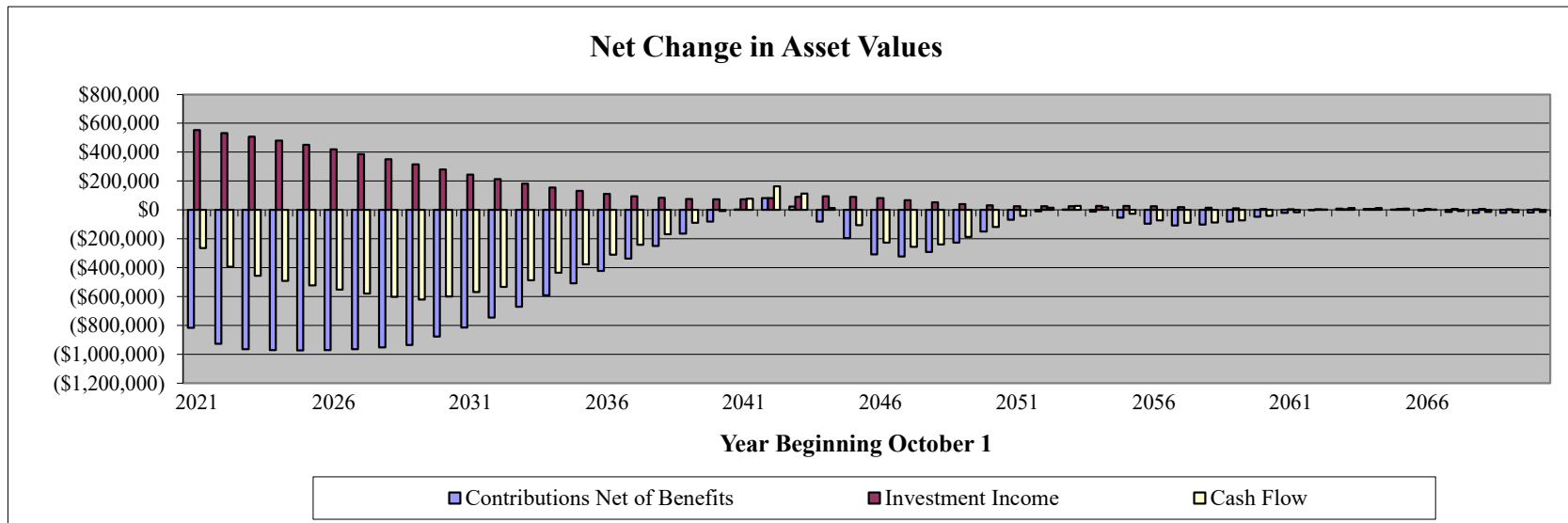
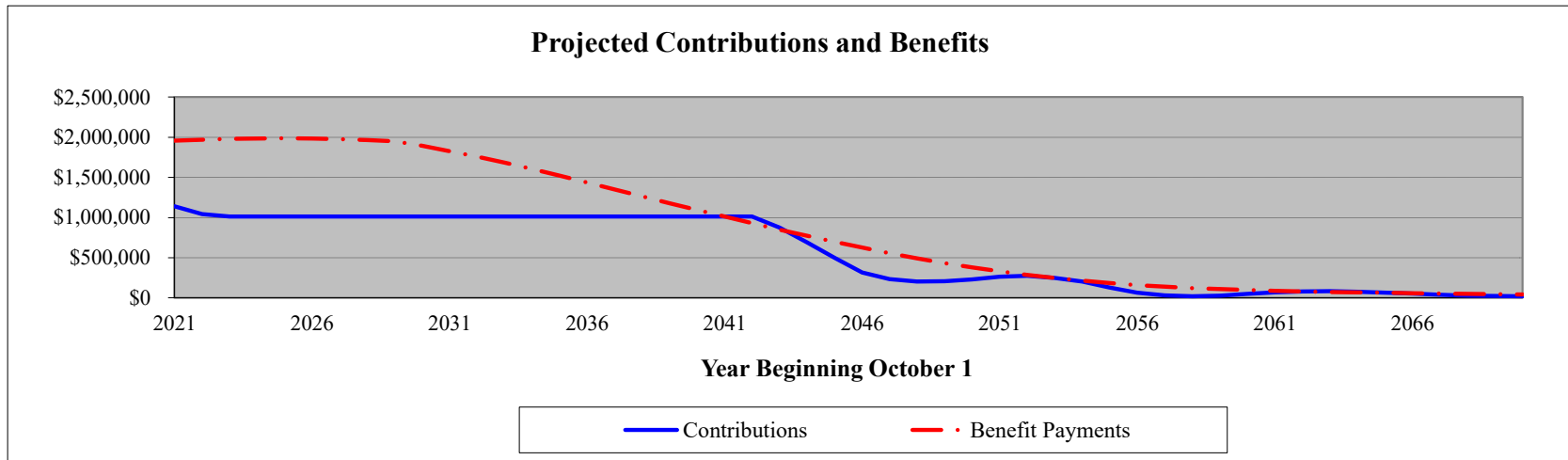
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$593,305,051	\$9,532,074	0.00171	\$1,141,009	\$1,957,285	\$552,361	(\$263,915)	\$9,268,159	2022
2022	593,305,051	9,268,159	0.00171	1,042,734	1,970,234	533,079	(394,421)	8,873,738	2023
2023	593,305,051	8,873,738	0.00171	1,014,552	1,979,934	508,087	(457,295)	8,416,443	2024
2024	593,305,051	8,416,443	0.00171	1,014,552	1,986,015	480,240	(491,223)	7,925,220	2025
2025	593,305,051	7,925,220	0.00171	1,014,552	1,988,112	450,458	(523,102)	7,402,118	2026
2026	593,305,051	7,402,118	0.00171	1,014,552	1,985,911	418,876	(552,483)	6,849,635	2027
2027	593,305,051	6,849,635	0.00171	1,014,552	1,979,113	385,653	(578,908)	6,270,727	2028
2028	593,305,051	6,270,727	0.00171	1,014,552	1,967,377	350,979	(601,846)	5,668,880	2029
2029	593,305,051	5,668,880	0.00171	1,014,552	1,950,440	315,072	(620,816)	5,048,065	2030
2030	593,305,051	5,048,065	0.00171	1,014,552	1,893,109	279,222	(599,335)	4,448,730	2031
2035	593,305,051	2,421,570	0.00171	1,014,552	1,521,975	131,381	(376,042)	2,045,528	2036
2040	593,305,051	1,235,660	0.00171	1,014,552	1,095,099	72,357	(8,190)	1,227,470	2041
2045	593,305,051	1,593,630	0.00118	501,294	697,324	90,572	(105,458)	1,488,172	2046
2050	593,305,051	580,223	0.00064	230,039	379,306	30,654	(118,613)	461,610	2051
2055	593,305,051	478,923	0.00031	130,044	184,199	27,361	(26,794)	452,130	2056
2060	593,305,051	131,891	0.00016	49,241	97,566	6,539	(41,786)	90,105	2061
2065	593,305,051	103,425	0.00011	64,397	62,797	6,305	7,905	111,330	2066
2070	593,305,051	73,906	0.00007	21,499	40,543	3,904	(15,140)	58,766	2071



**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

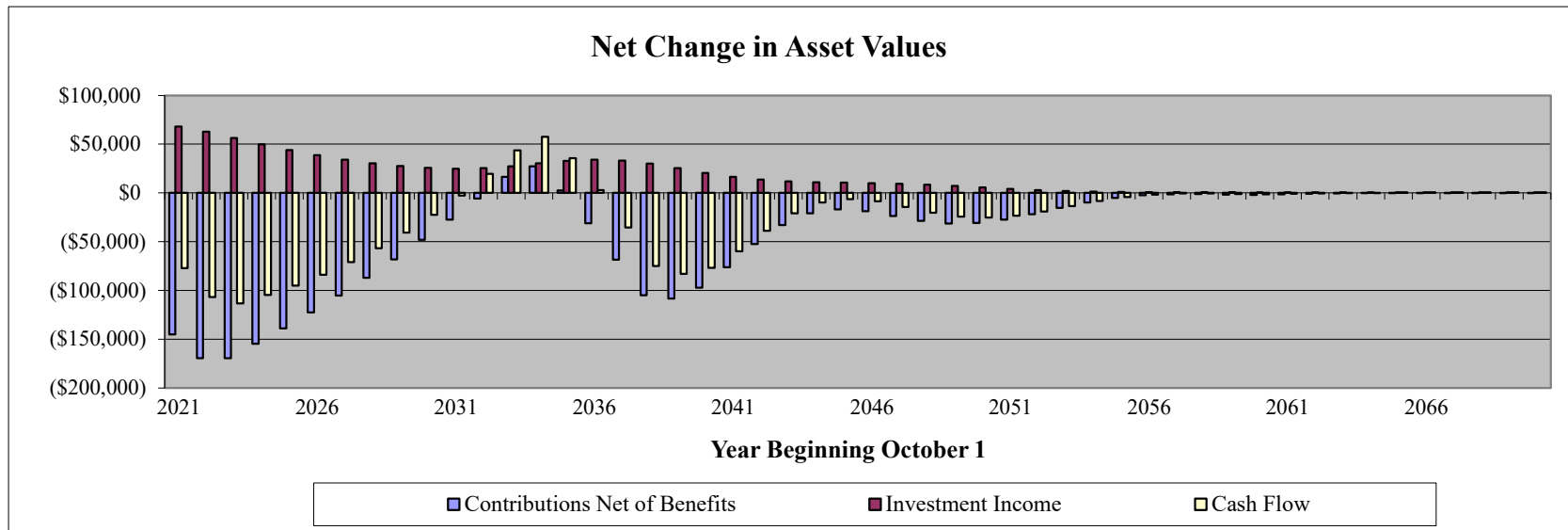
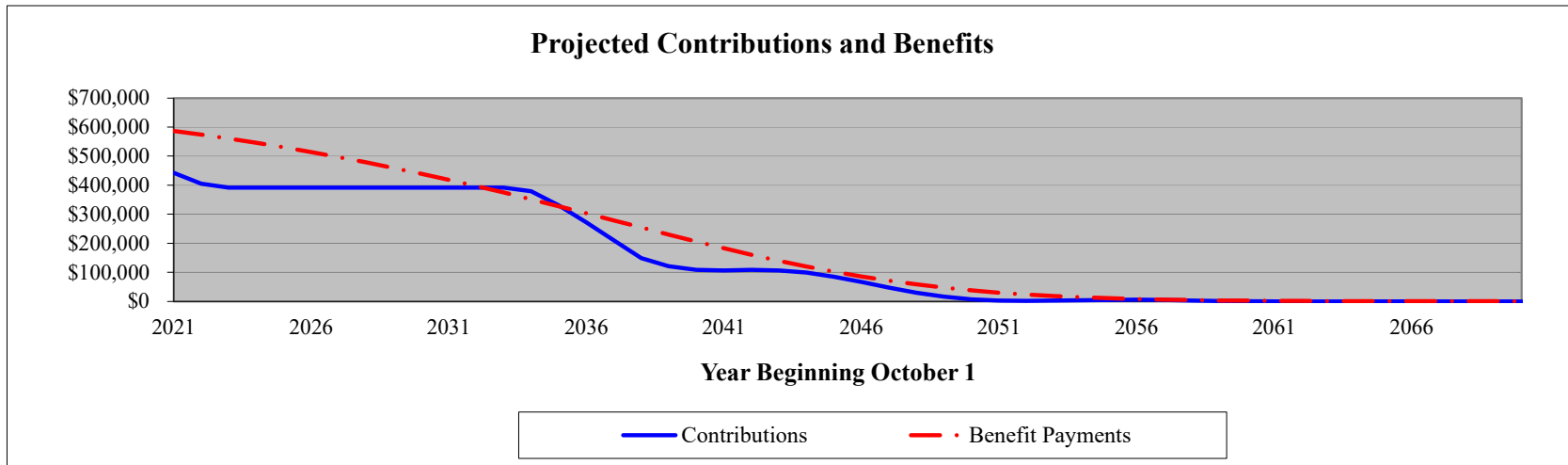
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$82,849,209	\$1,197,454	0.00472	\$442,138	\$587,322	\$68,119	(\$77,065)	\$1,120,389	2022
2022	82,849,209	1,120,389	0.00472	404,718	574,373	62,727	(106,928)	1,013,461	2023
2023	82,849,209	1,013,461	0.00472	391,048	560,494	56,264	(113,182)	900,279	2024
2024	82,849,209	900,279	0.00472	391,048	545,728	49,857	(104,823)	795,456	2025
2025	82,849,209	795,456	0.00472	391,048	530,109	43,980	(95,081)	700,375	2026
2026	82,849,209	700,375	0.00472	391,048	513,653	38,718	(83,887)	616,489	2027
2027	82,849,209	616,489	0.00472	391,048	496,357	34,159	(71,150)	545,338	2028
2028	82,849,209	545,338	0.00472	391,048	478,211	30,395	(56,768)	488,570	2029
2029	82,849,209	488,570	0.00472	391,048	459,209	27,527	(40,634)	447,936	2030
2030	82,849,209	447,936	0.00472	391,048	439,343	25,661	(22,634)	425,302	2031
2035	82,849,209	543,331	0.00395	330,207	327,569	32,950	35,588	578,920	2036
2040	82,849,209	387,971	0.00248	108,331	205,640	20,572	(76,737)	311,234	2041
2045	82,849,209	181,739	0.00122	84,667	101,461	10,495	(6,299)	175,440	2046
2050	82,849,209	107,463	0.00045	6,565	37,556	5,578	(25,413)	82,050	2051
2055	82,849,209	17,761	0.00012	4,881	10,177	917	(4,379)	13,382	2056
2060	82,849,209	9,091	0.00002	0	2,007	490	(1,517)	7,574	2061
2065	82,849,209	5,711	0.00000	0	249	338	89	5,800	2066
2070	82,849,209	6,964	0.00000	0	15	421	406	7,370	2071



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

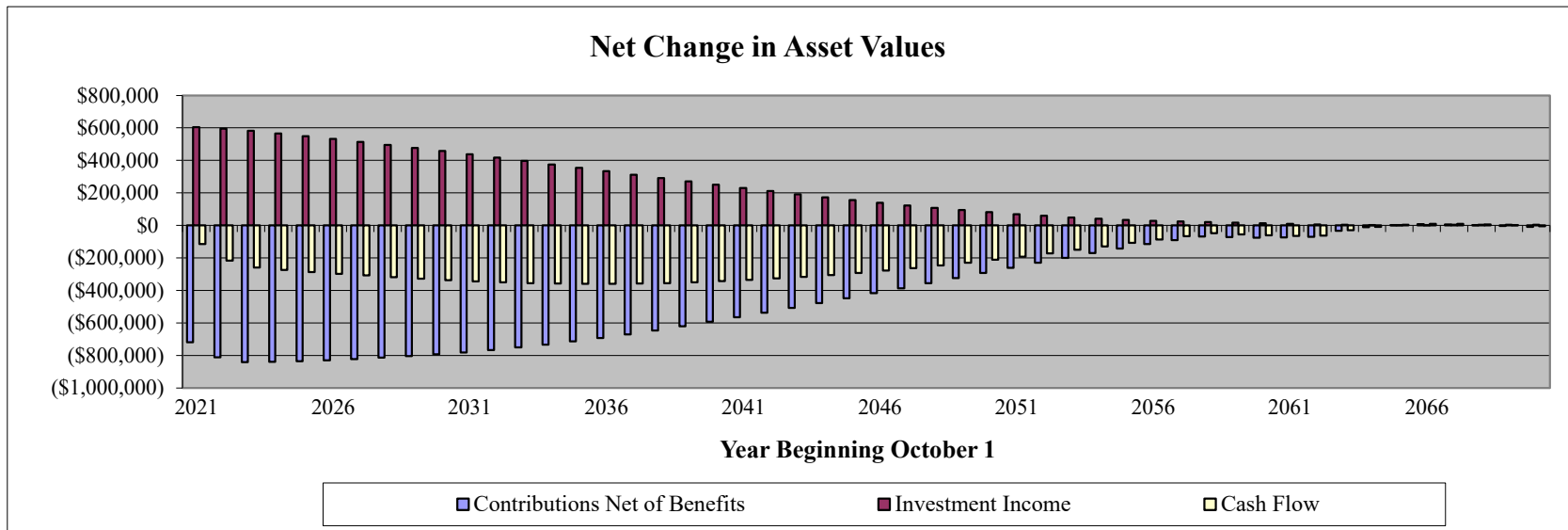
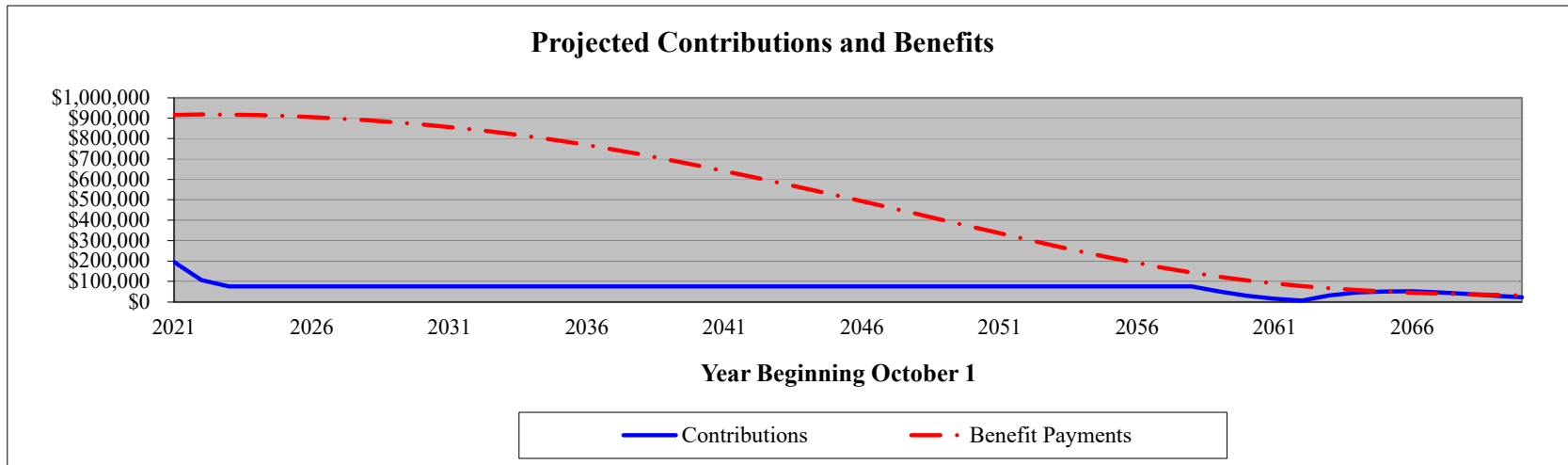
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$215,400,746	\$10,355,205	0.00035	\$196,317	\$915,839	\$605,044	(\$114,478)	\$10,240,728	2022
2022	215,400,746	10,240,728	0.00035	106,623	918,166	595,375	(216,168)	10,024,559	2023
2023	215,400,746	10,024,559	0.00035	75,390	917,029	581,400	(260,239)	9,764,320	2024
2024	215,400,746	9,764,320	0.00035	75,390	914,975	565,717	(273,868)	9,490,452	2025
2025	215,400,746	9,490,452	0.00035	75,390	910,978	549,267	(286,321)	9,204,131	2026
2026	215,400,746	9,204,131	0.00035	75,390	904,964	532,124	(297,450)	8,906,680	2027
2027	215,400,746	8,906,680	0.00035	75,390	897,918	514,338	(308,190)	8,598,491	2028
2028	215,400,746	8,598,491	0.00035	75,390	889,716	495,937	(318,389)	8,280,102	2029
2029	215,400,746	8,280,102	0.00035	75,390	880,221	476,958	(327,873)	7,952,230	2030
2030	215,400,746	7,952,230	0.00035	75,390	869,294	457,447	(336,457)	7,615,772	2031
2035	215,400,746	6,208,149	0.00035	75,390	789,764	354,300	(360,074)	5,848,075	2036
2040	215,400,746	4,424,387	0.00035	75,390	669,089	249,980	(343,719)	4,080,668	2041
2045	215,400,746	2,796,595	0.00035	75,390	523,444	155,839	(292,215)	2,504,380	2046
2050	215,400,746	1,485,754	0.00035	75,390	367,900	81,170	(211,340)	1,274,414	2051
2055	215,400,746	631,415	0.00035	75,390	217,146	33,975	(107,781)	523,634	2056
2060	215,400,746	268,062	0.00035	29,966	104,990	13,982	(61,042)	207,020	2061
2065	215,400,746	40,334	0.00023	51,266	50,404	2,466	3,328	43,662	2066
2070	215,400,746	68,543	0.00015	22,553	31,449	3,882	(5,014)	63,529	2071



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

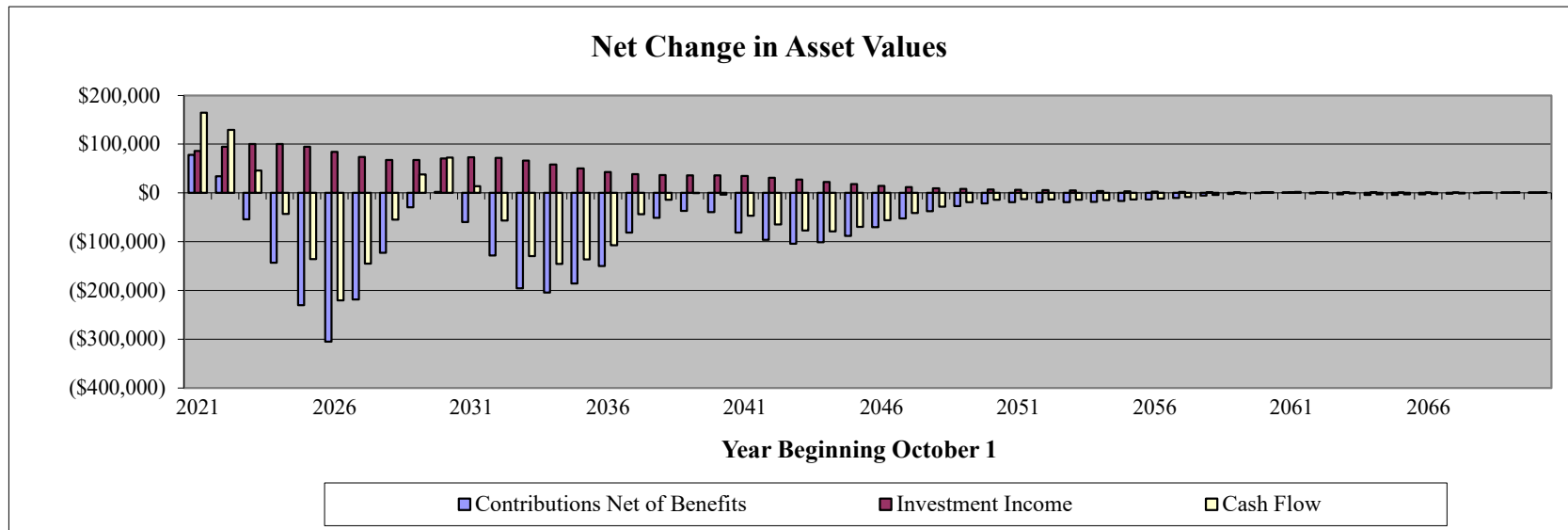
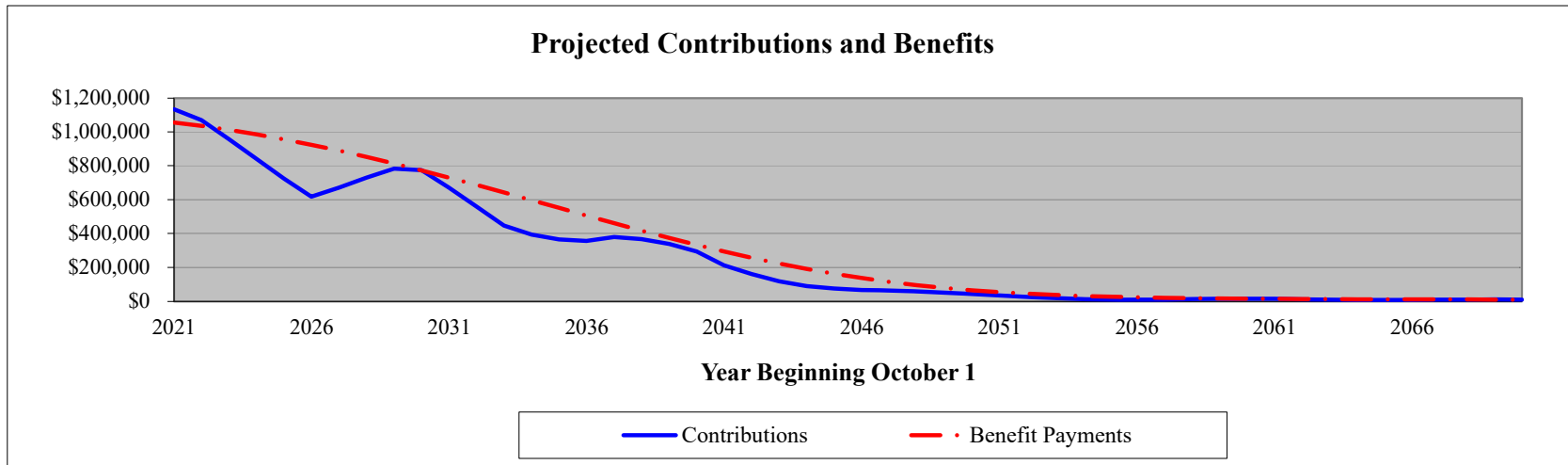
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$207,520,472	\$1,386,025	0.00509	\$1,134,420	\$1,056,383	\$86,180	\$164,217	\$1,550,242	2022
2022	207,520,472	1,550,242	0.00499	1,069,768	1,035,627	94,807	128,948	1,679,190	2023
2023	207,520,472	1,679,190	0.00488	957,362	1,011,767	99,969	45,564	1,724,753	2024
2024	207,520,472	1,724,753	0.00475	841,833	984,986	100,081	(43,072)	1,681,682	2025
2025	207,520,472	1,681,682	0.00460	725,010	955,504	94,872	(135,622)	1,546,060	2026
2026	207,520,472	1,546,060	0.00445	618,389	923,547	84,441	(220,717)	1,325,343	2027
2027	207,520,472	1,325,343	0.00429	670,479	889,324	73,660	(145,185)	1,180,158	2028
2028	207,520,472	1,180,158	0.00411	729,294	852,135	67,738	(55,103)	1,125,055	2029
2029	207,520,472	1,125,055	0.00392	783,618	812,939	67,192	37,871	1,162,926	2030
2030	207,520,472	1,162,926	0.00372	773,886	772,114	70,410	72,182	1,235,109	2031
2035	207,520,472	916,423	0.00266	365,555	551,699	49,895	(136,249)	780,174	2036
2040	207,520,472	614,220	0.00160	293,477	333,067	35,980	(3,610)	610,609	2041
2045	207,520,472	342,730	0.00078	74,339	162,314	18,113	(69,862)	272,868	2046
2050	207,520,472	128,754	0.00031	43,875	65,321	7,150	(14,296)	114,459	2051
2055	207,520,472	58,994	0.00013	9,913	26,572	3,073	(13,586)	45,408	2056
2060	207,520,472	20,182	0.00007	14,922	14,954	1,220	1,188	21,370	2061
2065	207,520,472	19,064	0.00006	7,414	11,606	1,028	(3,164)	15,900	2066
2070	207,520,472	14,309	0.00005	10,263	9,821	879	1,321	15,630	2071



**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

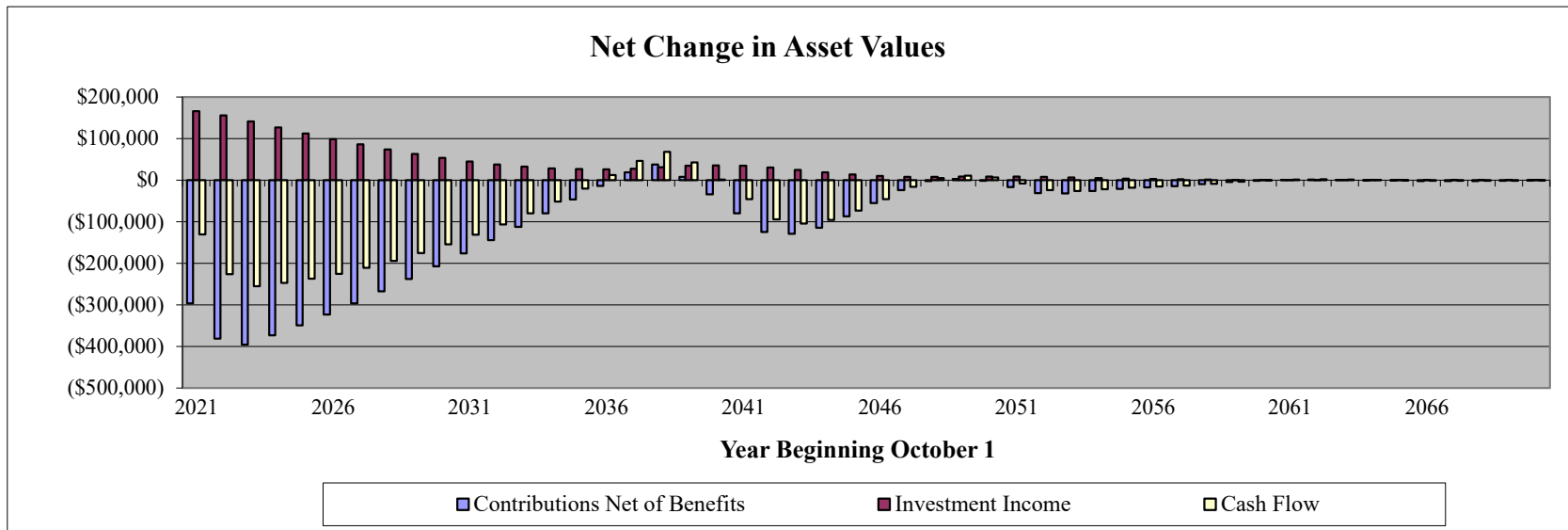
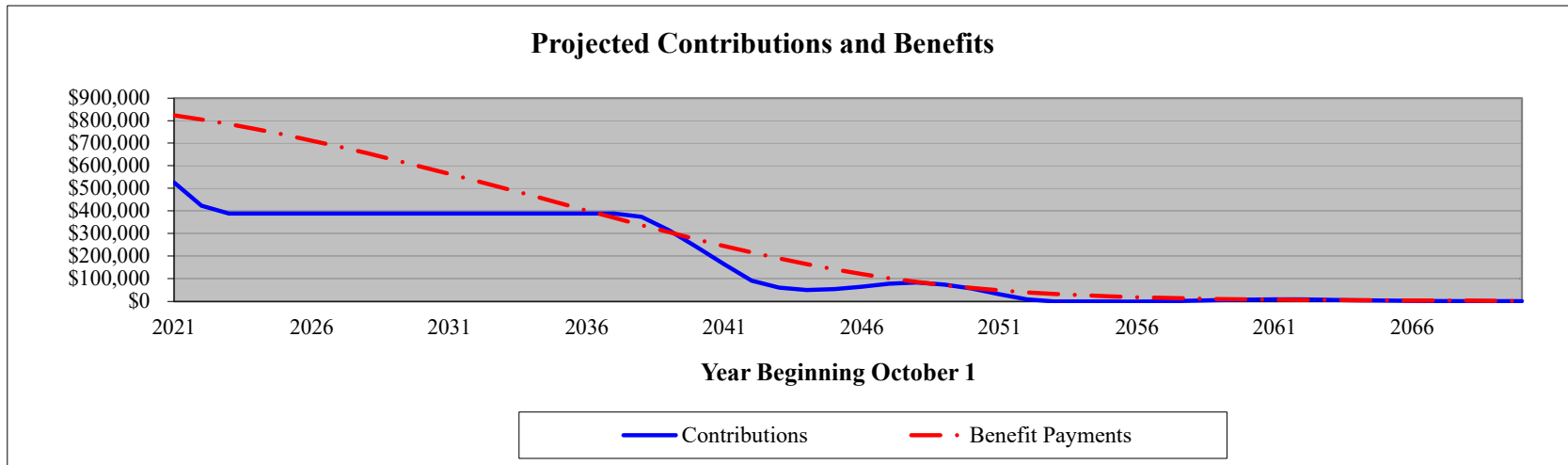
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$205,375,459	\$2,883,876	0.00189	\$526,683	\$823,298	\$165,634	(\$130,981)	\$2,752,896	2022
2022	205,375,459	2,752,896	0.00189	423,587	804,873	155,186	(226,100)	2,526,796	2023
2023	205,375,459	2,526,796	0.00189	388,160	784,392	141,061	(255,171)	2,271,624	2024
2024	205,375,459	2,271,624	0.00189	388,160	761,977	126,291	(247,526)	2,024,098	2025
2025	205,375,459	2,024,098	0.00189	388,160	737,772	112,037	(237,575)	1,786,523	2026
2026	205,375,459	1,786,523	0.00189	388,160	711,937	98,434	(225,343)	1,561,180	2027
2027	205,375,459	1,561,180	0.00189	388,160	684,645	85,614	(210,871)	1,350,309	2028
2028	205,375,459	1,350,309	0.00189	388,160	656,089	73,708	(194,221)	1,156,088	2029
2029	205,375,459	1,156,088	0.00189	388,160	626,458	62,841	(175,457)	980,631	2030
2030	205,375,459	980,631	0.00189	388,160	595,931	53,135	(154,636)	825,994	2031
2035	205,375,459	455,544	0.00189	388,160	435,100	26,161	(20,779)	434,765	2036
2040	205,375,459	602,852	0.00134	240,333	274,427	35,456	1,362	604,214	2041
2045	205,375,459	262,252	0.00069	54,143	141,278	13,269	(73,866)	188,386	2046
2050	205,375,459	142,000	0.00029	56,526	58,645	8,528	6,409	148,409	2051
2055	205,375,459	67,569	0.00011	0	21,625	3,443	(18,182)	49,387	2056
2060	205,375,459	7,693	0.00004	7,232	8,677	422	(1,023)	6,671	2061
2065	205,375,459	11,093	0.00002	2,803	4,113	632	(678)	10,415	2066
2070	205,375,459	2,974	0.00001	599	1,785	145	(1,041)	1,933	2071



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

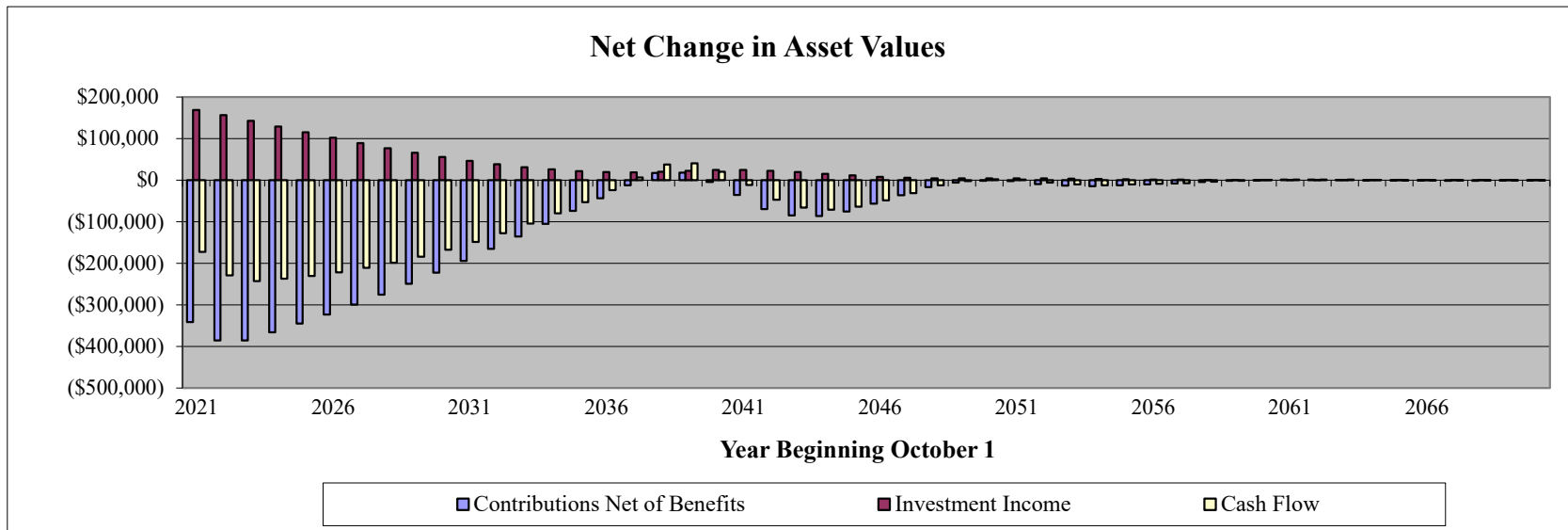
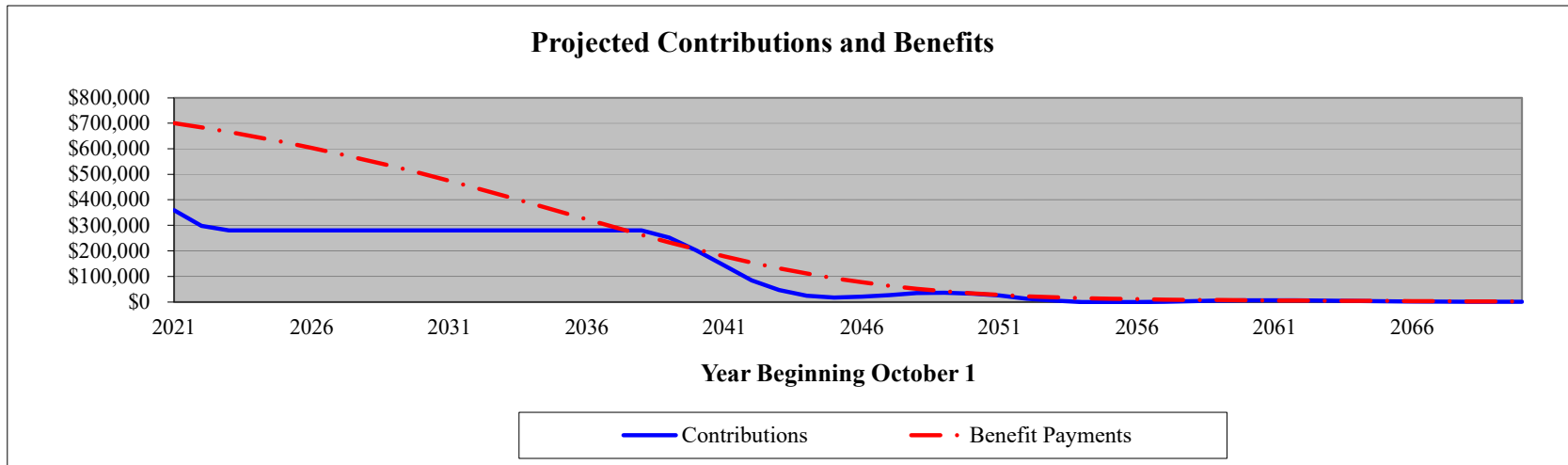
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$106,864,240	\$2,950,656	0.00262	\$359,052	\$700,327	\$168,343	(\$172,932)	\$2,777,724	2022
2022	106,864,240	2,777,724	0.00262	297,617	683,595	156,548	(229,430)	2,548,295	2023
2023	106,864,240	2,548,295	0.00262	279,984	665,486	142,682	(242,820)	2,305,475	2024
2024	106,864,240	2,305,475	0.00262	279,984	646,037	128,571	(237,482)	2,067,993	2025
2025	106,864,240	2,067,993	0.00262	279,984	625,278	114,822	(230,472)	1,837,521	2026
2026	106,864,240	1,837,521	0.00262	279,984	603,240	101,535	(221,721)	1,615,801	2027
2027	106,864,240	1,615,801	0.00262	279,984	579,951	88,815	(211,152)	1,404,649	2028
2028	106,864,240	1,404,649	0.00262	279,984	555,430	76,771	(198,675)	1,205,973	2029
2029	106,864,240	1,205,973	0.00262	279,984	529,696	65,519	(184,193)	1,021,780	2030
2030	106,864,240	1,021,780	0.00262	279,984	502,785	55,177	(167,624)	854,157	2031
2035	106,864,240	392,218	0.00262	279,984	354,499	21,508	(53,007)	339,210	2036
2040	106,864,240	398,360	0.00192	200,860	205,221	23,971	19,610	417,970	2041
2045	106,864,240	221,412	0.00087	17,311	92,727	11,148	(64,268)	157,143	2046
2050	106,864,240	62,157	0.00032	32,087	33,687	3,713	2,113	64,271	2051
2055	106,864,240	36,995	0.00012	0	12,359	1,870	(10,489)	26,506	2056
2060	106,864,240	3,976	0.00006	6,050	6,076	240	214	4,190	2061
2065	106,864,240	7,645	0.00003	2,612	3,269	443	(214)	7,430	2066
2070	106,864,240	2,928	0.00001	266	1,307	146	(895)	2,034	2071



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

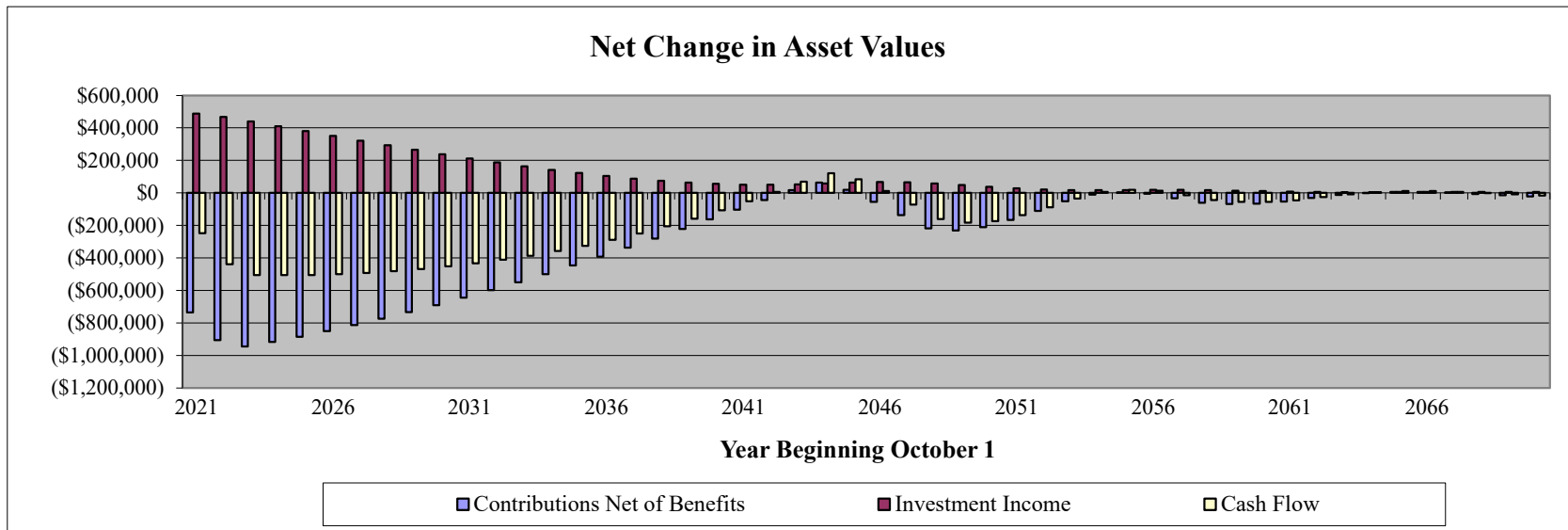
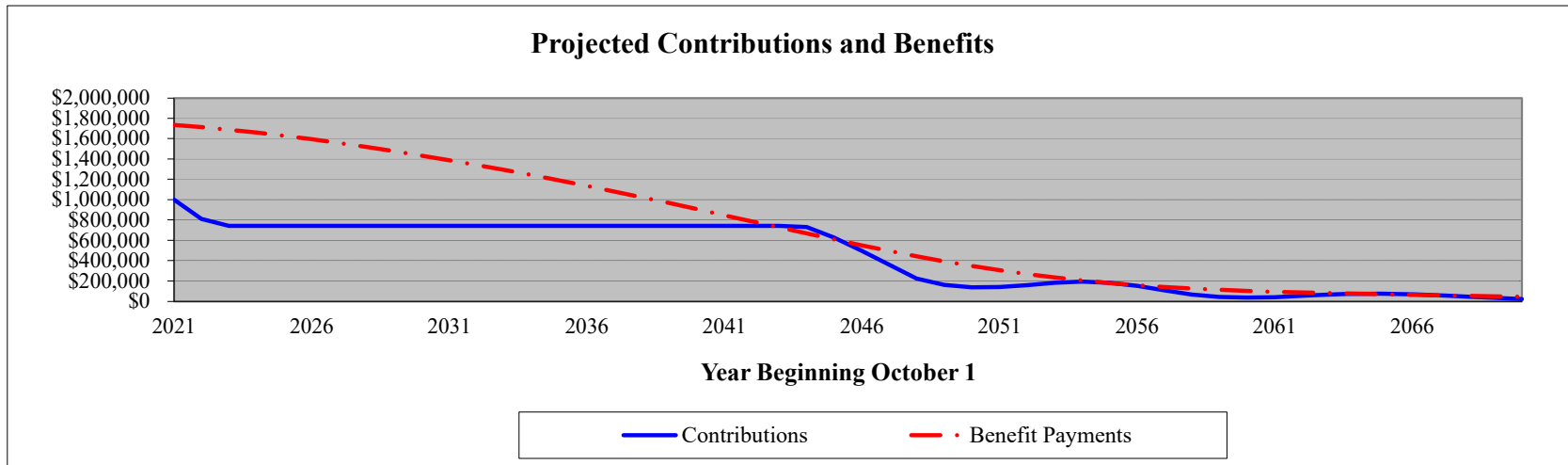
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$816,814,675	\$8,421,021	0.00091	\$1,001,299	\$1,736,629	\$487,555	(\$247,775)	\$8,173,246	2022
2022	816,814,675	8,173,246	0.00091	808,647	1,714,381	467,485	(438,249)	7,734,997	2023
2023	816,814,675	7,734,997	0.00091	743,301	1,688,313	439,800	(505,212)	7,229,785	2024
2024	816,814,675	7,229,785	0.00091	743,301	1,659,678	410,089	(506,288)	6,723,497	2025
2025	816,814,675	6,723,497	0.00091	743,301	1,628,865	380,377	(505,187)	6,218,310	2026
2026	816,814,675	6,218,310	0.00091	743,301	1,594,606	350,834	(500,471)	5,717,840	2027
2027	816,814,675	5,717,840	0.00091	743,301	1,557,107	321,673	(492,133)	5,225,707	2028
2028	816,814,675	5,225,707	0.00091	743,301	1,517,840	293,070	(481,469)	4,744,239	2029
2029	816,814,675	4,744,239	0.00091	743,301	1,476,750	265,165	(468,284)	4,275,954	2030
2030	816,814,675	4,275,954	0.00091	743,301	1,433,753	238,116	(452,336)	3,823,618	2031
2035	816,814,675	2,234,990	0.00091	743,301	1,190,512	121,887	(325,324)	1,909,666	2036
2040	816,814,675	1,005,737	0.00091	743,301	906,658	55,978	(107,379)	898,358	2041
2045	816,814,675	1,043,313	0.00074	627,195	607,917	63,695	82,973	1,126,287	2046
2050	816,814,675	721,851	0.00043	136,787	347,674	37,386	(173,501)	548,349	2051
2055	816,814,675	294,318	0.00022	180,307	179,834	17,820	18,293	312,612	2056
2060	816,814,675	213,033	0.00012	35,981	102,091	10,918	(55,192)	157,841	2061
2065	816,814,675	82,081	0.00008	75,067	68,310	5,167	11,924	94,005	2066
2070	816,814,675	102,718	0.00005	22,162	44,887	5,537	(17,188)	85,529	2071



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

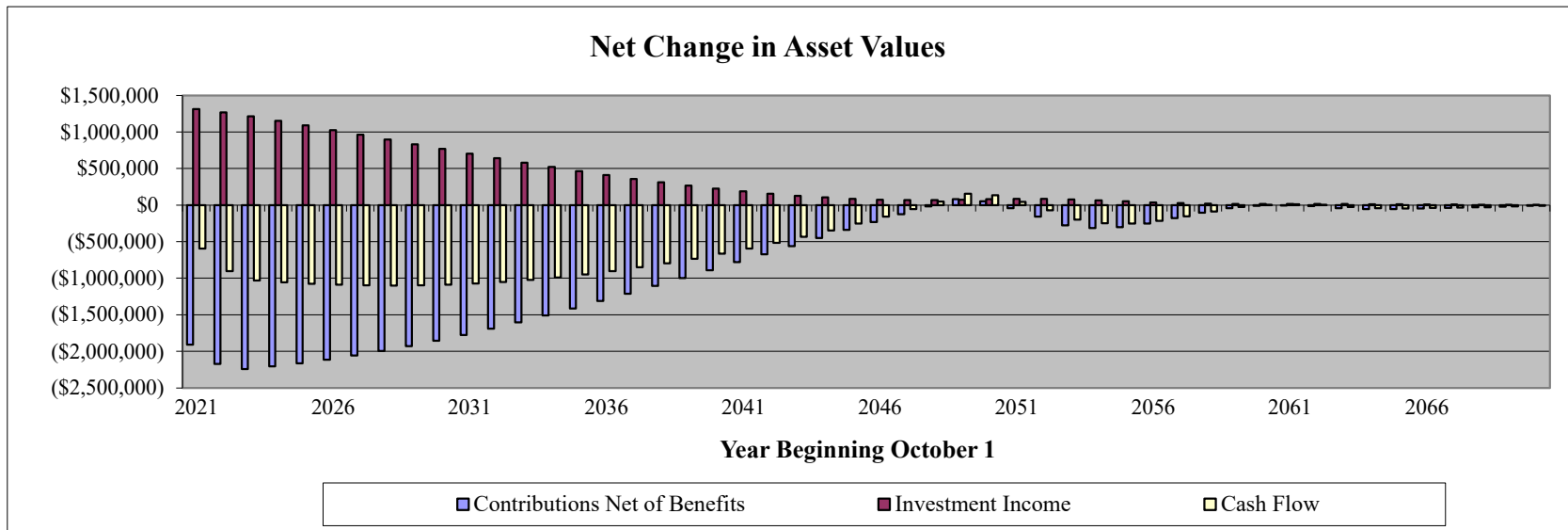
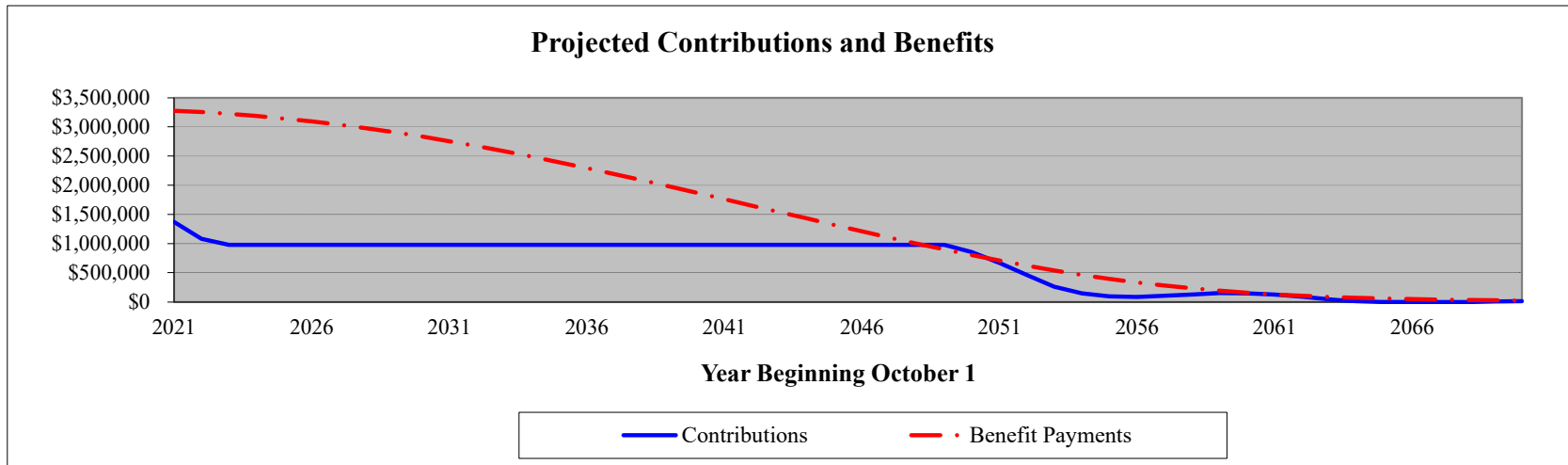
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$482,280,326	\$22,642,699	0.00203	\$1,369,171	\$3,276,128	\$1,313,045	(\$593,912)	\$22,048,787	2022
2022	482,280,326	22,048,787	0.00203	1,079,102	3,252,513	1,269,171	(904,240)	21,144,547	2023
2023	482,280,326	21,144,547	0.00203	979,029	3,221,676	1,212,401	(1,030,246)	20,114,301	2024
2024	482,280,326	20,114,301	0.00203	979,029	3,185,273	1,151,156	(1,055,088)	19,059,213	2025
2025	482,280,326	19,059,213	0.00203	979,029	3,142,492	1,088,599	(1,074,864)	17,984,349	2026
2026	482,280,326	17,984,349	0.00203	979,029	3,093,354	1,025,034	(1,089,291)	16,895,057	2027
2027	482,280,326	16,895,057	0.00203	979,029	3,037,606	960,793	(1,097,784)	15,797,273	2028
2028	482,280,326	15,797,273	0.00203	979,029	2,975,376	896,232	(1,100,115)	14,697,158	2029
2029	482,280,326	14,697,158	0.00203	979,029	2,907,595	831,696	(1,096,870)	13,600,288	2030
2030	482,280,326	13,600,288	0.00203	979,029	2,834,261	767,521	(1,087,711)	12,512,577	2031
2035	482,280,326	8,379,200	0.00203	979,029	2,392,249	464,819	(948,401)	7,430,799	2036
2040	482,280,326	4,146,974	0.00203	979,029	1,869,964	224,337	(666,598)	3,480,376	2041
2045	482,280,326	1,588,625	0.00203	979,029	1,319,394	85,967	(254,398)	1,334,227	2046
2050	482,280,326	1,320,886	0.00166	852,899	800,193	81,485	134,191	1,455,078	2051
2055	482,280,326	980,064	0.00082	91,918	395,186	50,255	(253,013)	727,051	2056
2060	482,280,326	246,468	0.00032	145,285	156,733	14,570	3,122	249,590	2061
2065	482,280,326	188,214	0.00012	0	55,620	9,729	(45,891)	142,323	2066
2070	482,280,326	23,365	0.00005	13,544	23,770	1,109	(9,117)	14,248	2071



Mississippi Municipal Retirement Systems
City of Hattiesburg

50 Year Cash Flow Projection
Based on Valuation Assumptions



**Mississippi Municipal Retirement Systems
City of Jackson**



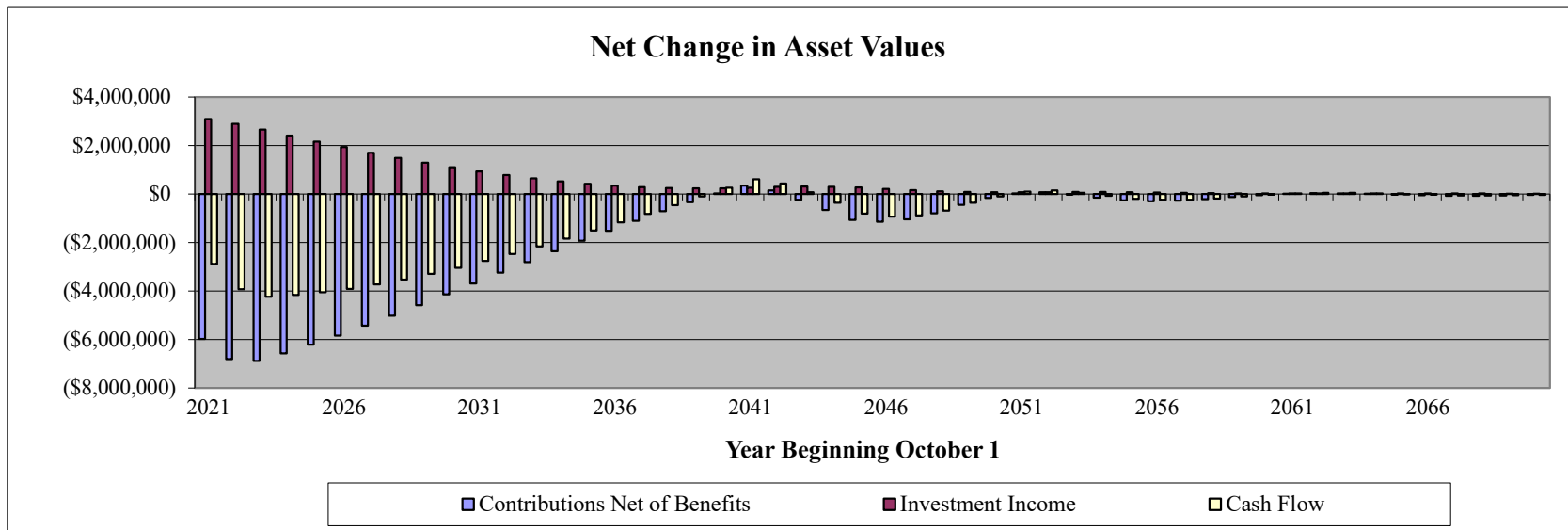
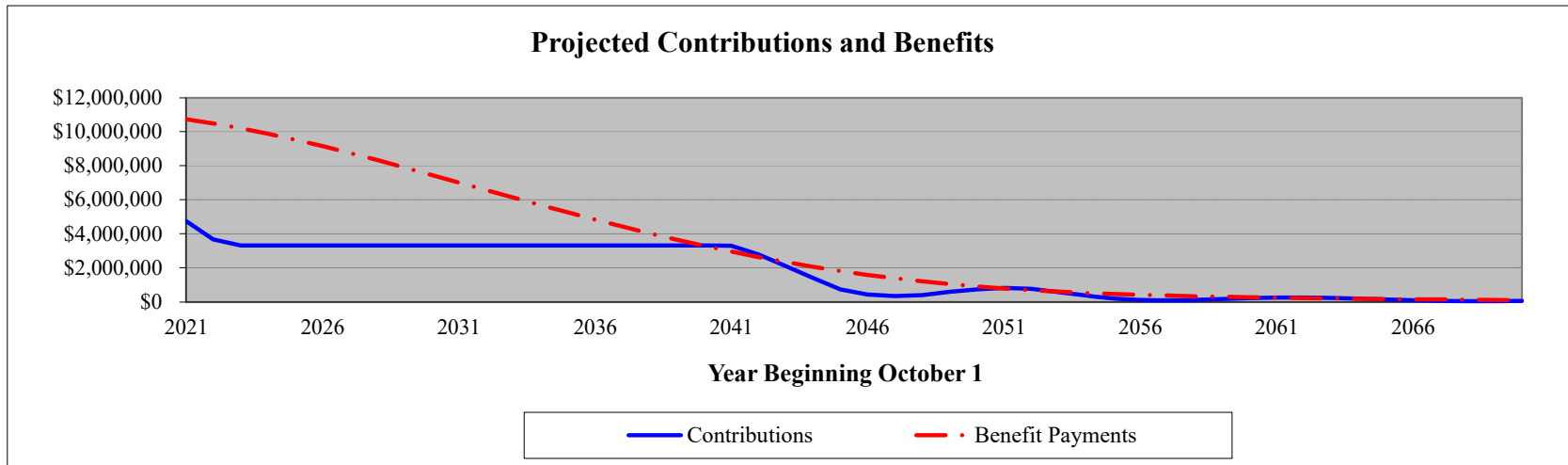
**Cash Flow Projection
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments**

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>
2021	\$1,251,727,960	\$54,019,648	0.00265	\$4,754,174	\$10,733,486	\$3,089,970	(\$2,889,342)	\$51,130,306	2022
2022	1,251,727,960	51,130,306	0.00265	3,673,822	10,492,551	2,890,146	(3,928,583)	47,201,723	2023
2023	1,251,727,960	47,201,723	0.00265	3,317,079	10,209,892	2,650,258	(4,242,555)	42,959,168	2024
2024	1,251,727,960	42,959,168	0.00265	3,317,079	9,890,487	2,403,104	(4,170,304)	38,788,864	2025
2025	1,251,727,960	38,788,864	0.00265	3,317,079	9,538,244	2,161,299	(4,059,866)	34,728,998	2026
2026	1,251,727,960	34,728,998	0.00265	3,317,079	9,158,713	1,926,990	(3,914,644)	30,814,354	2027
2027	1,251,727,960	30,814,354	0.00265	3,317,079	8,756,632	1,702,138	(3,737,415)	27,076,939	2028
2028	1,251,727,960	27,076,939	0.00265	3,317,079	8,336,765	1,488,539	(3,531,147)	23,545,792	2029
2029	1,251,727,960	23,545,792	0.00265	3,317,079	7,903,790	1,287,810	(3,298,901)	20,246,891	2030
2030	1,251,727,960	20,246,891	0.00265	3,317,079	7,462,163	1,101,389	(3,043,695)	17,203,196	2031
2035	1,251,727,960	7,945,349	0.00265	3,317,079	5,254,166	422,957	(1,514,130)	6,431,219	2036
2040	1,251,727,960	3,863,748	0.00263	3,317,079	3,293,067	234,472	258,484	4,122,232	2041
2045	1,251,727,960	4,863,305	0.00145	736,454	1,810,058	262,230	(811,374)	4,051,931	2046
2050	1,251,727,960	1,162,514	0.00072	736,200	904,084	65,328	(102,556)	1,059,958	2051
2055	1,251,727,960	1,261,668	0.00037	196,828	463,594	68,380	(198,386)	1,063,282	2056
2060	1,251,727,960	277,318	0.00022	218,963	269,425	15,274	(35,188)	242,130	2061
2065	1,251,727,960	371,300	0.00013	142,996	167,552	21,732	(2,824)	368,476	2066
2070	1,251,727,960	153,438	0.00008	52,195	99,894	7,861	(39,838)	113,600	2071



**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

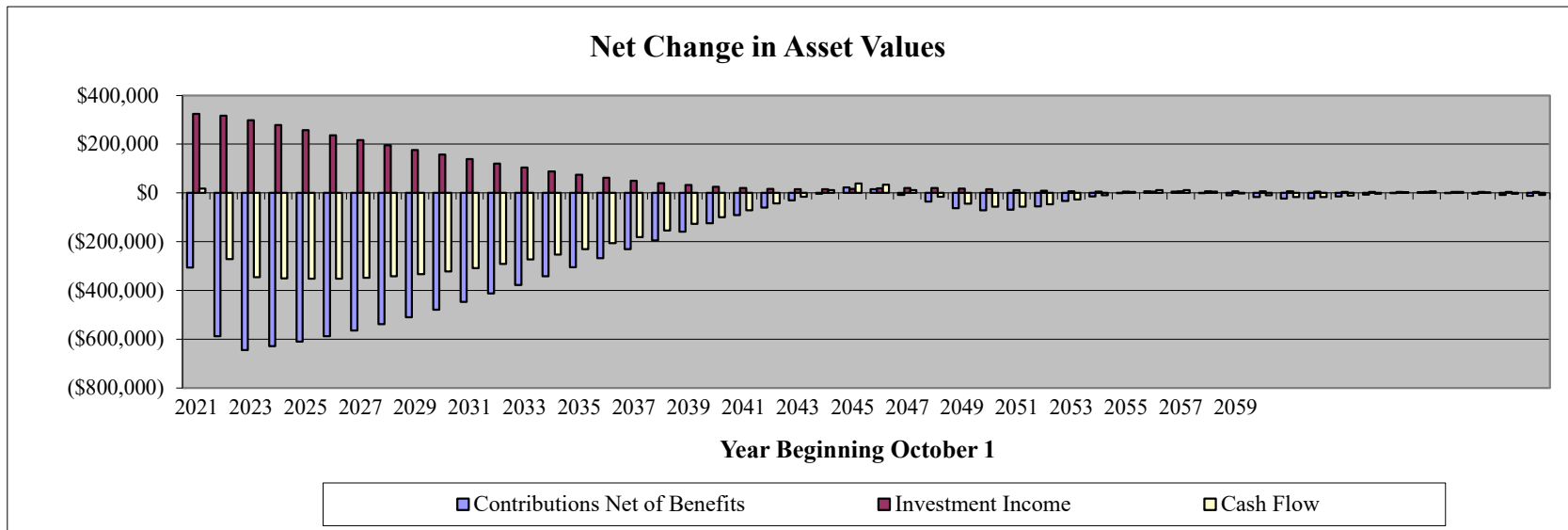
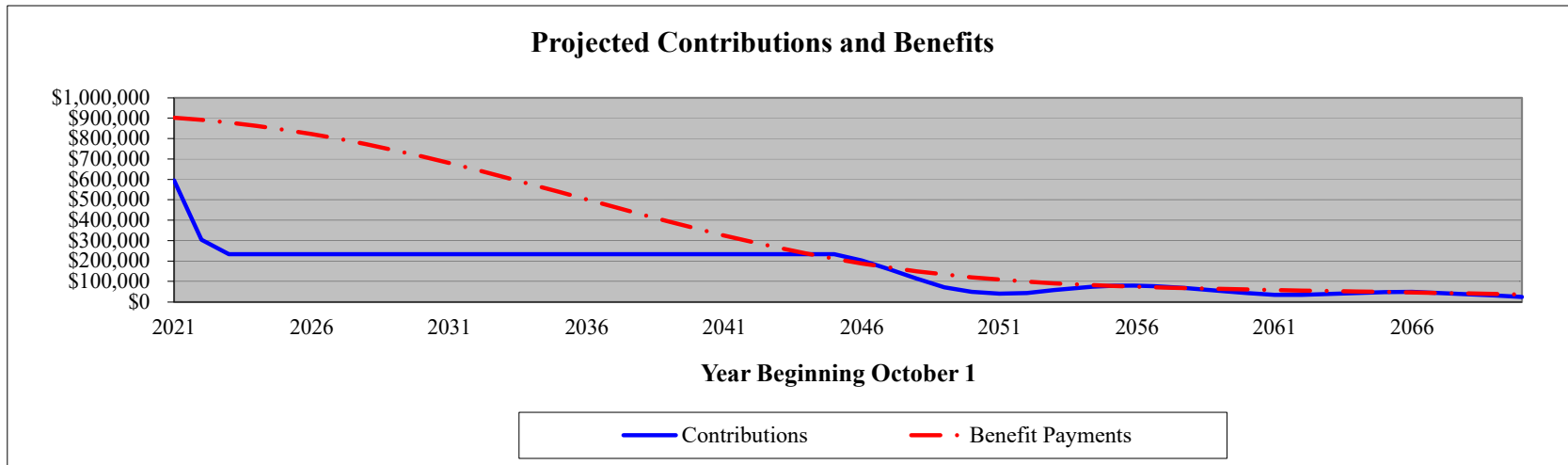
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$197,898,826	\$5,506,153	0.00118	\$595,692	\$902,356	\$323,982	\$17,318	\$5,523,471	2022
2022	197,898,826	5,523,471	0.00118	303,775	891,553	316,651	(271,127)	5,252,344	2023
2023	197,898,826	5,252,344	0.00118	233,521	878,135	298,554	(346,060)	4,906,284	2024
2024	197,898,826	4,906,284	0.00118	233,521	862,051	278,096	(350,434)	4,555,850	2025
2025	197,898,826	4,555,850	0.00118	233,521	843,295	257,454	(352,320)	4,203,530	2026
2026	197,898,826	4,203,530	0.00118	233,521	821,912	236,776	(351,615)	3,851,915	2027
2027	197,898,826	3,851,915	0.00118	233,521	797,989	216,216	(348,252)	3,503,663	2028
2028	197,898,826	3,503,663	0.00118	233,521	771,654	195,932	(342,201)	3,161,462	2029
2029	197,898,826	3,161,462	0.00118	233,521	743,080	176,081	(333,478)	2,827,984	2030
2030	197,898,826	2,827,984	0.00118	233,521	712,474	156,817	(322,136)	2,505,849	2031
2035	197,898,826	1,379,163	0.00118	233,521	538,414	74,352	(230,541)	1,148,622	2036
2040	197,898,826	478,612	0.00118	233,521	358,389	25,234	(99,634)	378,978	2041
2045	197,898,826	260,536	0.00107	233,521	211,317	16,424	38,628	299,164	2046
2050	197,898,826	283,642	0.00061	48,635	120,534	15,017	(56,882)	226,759	2051
2055	197,898,826	86,712	0.00040	77,008	78,443	5,203	3,768	90,480	2056
2060	197,898,826	117,103	0.00031	43,878	60,434	6,591	(9,965)	107,138	2061
2065	197,898,826	58,648	0.00025	47,094	48,504	3,506	2,096	60,744	2066
2070	197,898,826	68,182	0.00019	24,997	36,787	3,774	(8,016)	60,166	2071



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

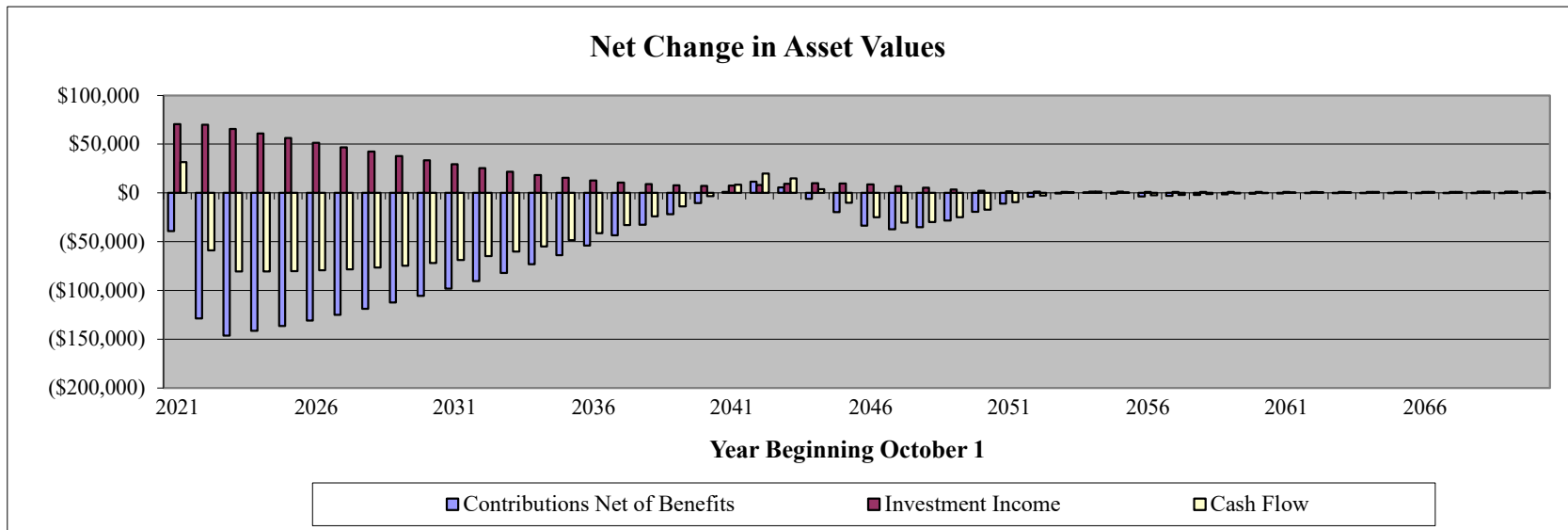
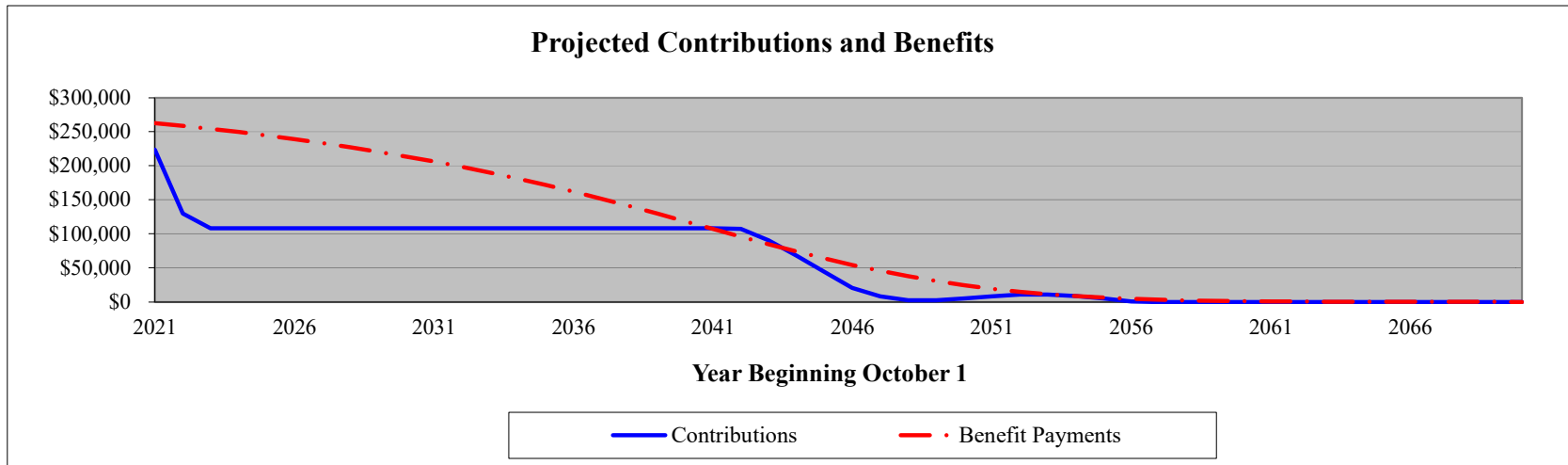
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$102,885,698	\$1,184,699	0.00105	\$223,601	\$262,665	\$70,510	\$31,446	\$1,216,145	2022
2022	102,885,698	1,216,145	0.00105	129,893	258,699	69,738	(59,068)	1,157,077	2023
2023	102,885,698	1,157,077	0.00105	108,030	254,322	65,643	(80,649)	1,076,428	2024
2024	102,885,698	1,076,428	0.00105	108,030	249,563	60,905	(80,628)	995,800	2025
2025	102,885,698	995,800	0.00105	108,030	244,444	56,180	(80,234)	915,566	2026
2026	102,885,698	915,566	0.00105	108,030	238,979	51,489	(79,460)	836,106	2027
2027	102,885,698	836,106	0.00105	108,030	233,168	46,855	(78,283)	757,823	2028
2028	102,885,698	757,823	0.00105	108,030	227,003	42,302	(76,671)	681,152	2029
2029	102,885,698	681,152	0.00105	108,030	220,472	37,858	(74,584)	606,568	2030
2030	102,885,698	606,568	0.00105	108,030	213,553	33,552	(71,971)	534,597	2031
2035	102,885,698	285,820	0.00105	108,030	171,925	15,388	(48,507)	237,313	2036
2040	102,885,698	125,028	0.00105	108,030	118,475	7,253	(3,192)	121,836	2041
2045	102,885,698	168,697	0.00062	44,018	63,808	9,616	(10,174)	158,523	2046
2050	102,885,698	48,094	0.00024	4,985	24,540	2,327	(17,228)	30,866	2051
2055	102,885,698	20,292	0.00006	5,152	6,123	1,199	228	20,520	2056
2060	102,885,698	14,264	0.00001	0	883	837	(46)	14,217	2061
2065	102,885,698	16,576	0.00000	0	63	1,001	938	17,514	2066
2070	102,885,698	22,078	0.00000	0	2	1,336	1,334	23,412	2071



**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

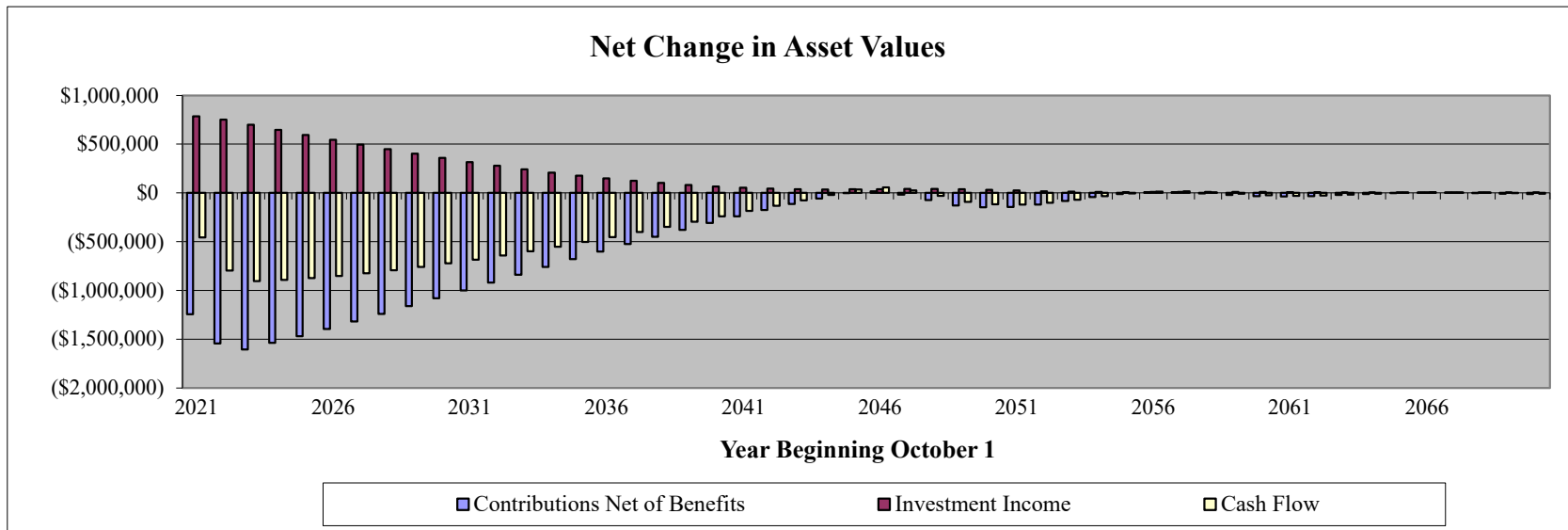
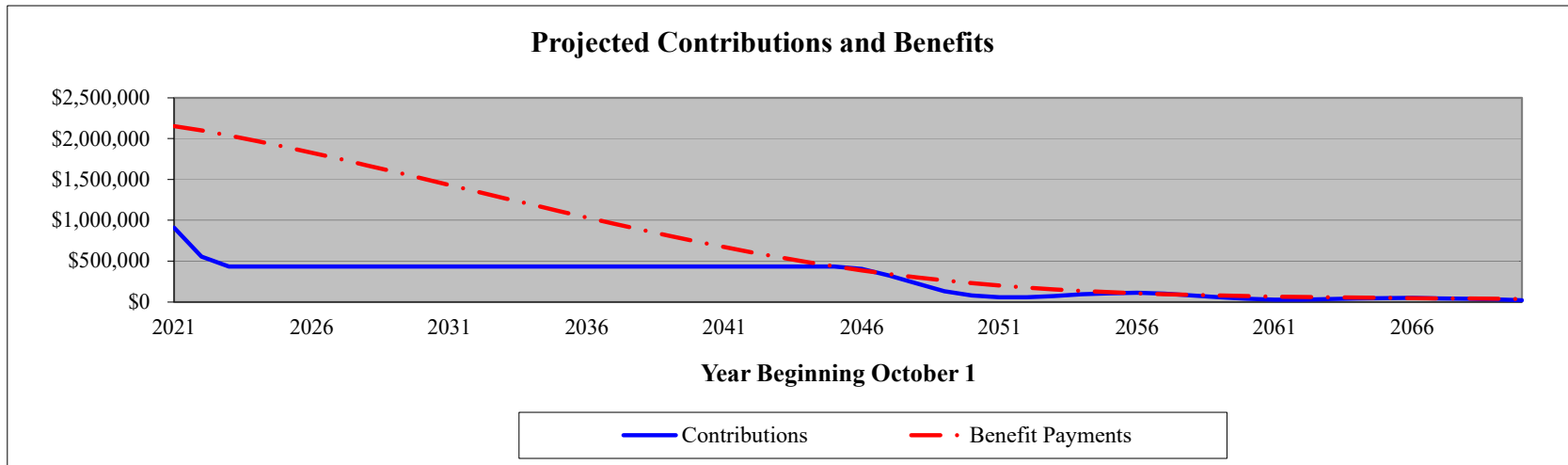
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$365,967,586	\$13,611,886	0.00118	\$908,161	\$2,151,903	\$786,448	(\$457,294)	\$13,154,592	2022
2022	365,967,586	13,154,592	0.00118	552,611	2,097,952	749,793	(795,548)	12,359,044	2023
2023	365,967,586	12,359,044	0.00118	431,842	2,037,251	699,872	(905,537)	11,453,507	2024
2024	365,967,586	11,453,507	0.00118	431,842	1,971,290	647,053	(892,395)	10,561,112	2025
2025	365,967,586	10,561,112	0.00118	431,842	1,901,146	595,153	(874,151)	9,686,961	2026
2026	365,967,586	9,686,961	0.00118	431,842	1,827,675	544,457	(851,376)	8,835,585	2027
2027	365,967,586	8,835,585	0.00118	431,842	1,751,602	495,216	(824,544)	8,011,041	2028
2028	365,967,586	8,011,041	0.00118	431,842	1,673,566	447,657	(794,067)	7,216,974	2029
2029	365,967,586	7,216,974	0.00118	431,842	1,594,146	401,983	(760,321)	6,456,652	2030
2030	365,967,586	6,456,652	0.00118	431,842	1,513,838	358,378	(723,618)	5,733,035	2031
2035	365,967,586	3,256,452	0.00118	431,842	1,112,206	176,737	(503,627)	2,752,824	2036
2040	365,967,586	1,251,939	0.00118	431,842	739,499	66,572	(241,085)	1,010,853	2041
2045	365,967,586	597,293	0.00118	431,842	434,802	36,048	33,088	630,381	2046
2050	365,967,586	584,581	0.00063	79,942	228,826	30,930	(117,954)	466,627	2051
2055	365,967,586	141,830	0.00032	106,055	118,523	8,209	(4,259)	137,571	2056
2060	365,967,586	163,390	0.00019	37,138	70,058	8,904	(24,016)	139,374	2061
2065	365,967,586	57,818	0.00013	46,412	48,477	3,436	1,371	59,188	2066
2070	365,967,586	68,279	0.00009	22,112	34,471	3,762	(8,597)	59,681	2071



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

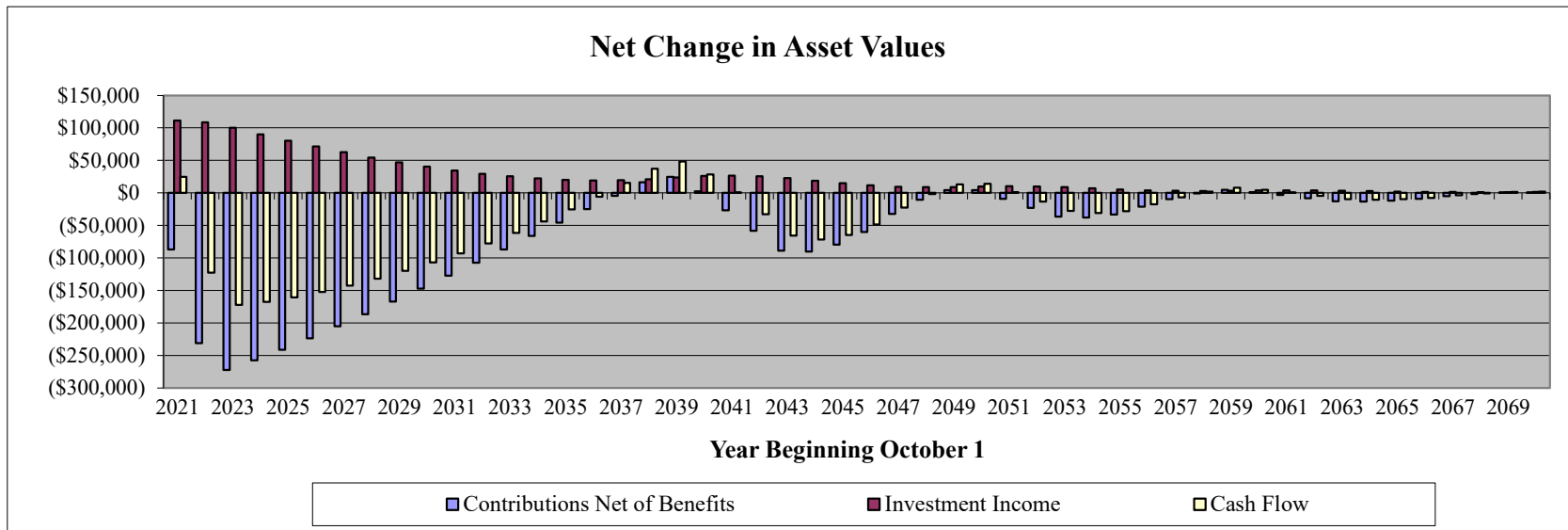
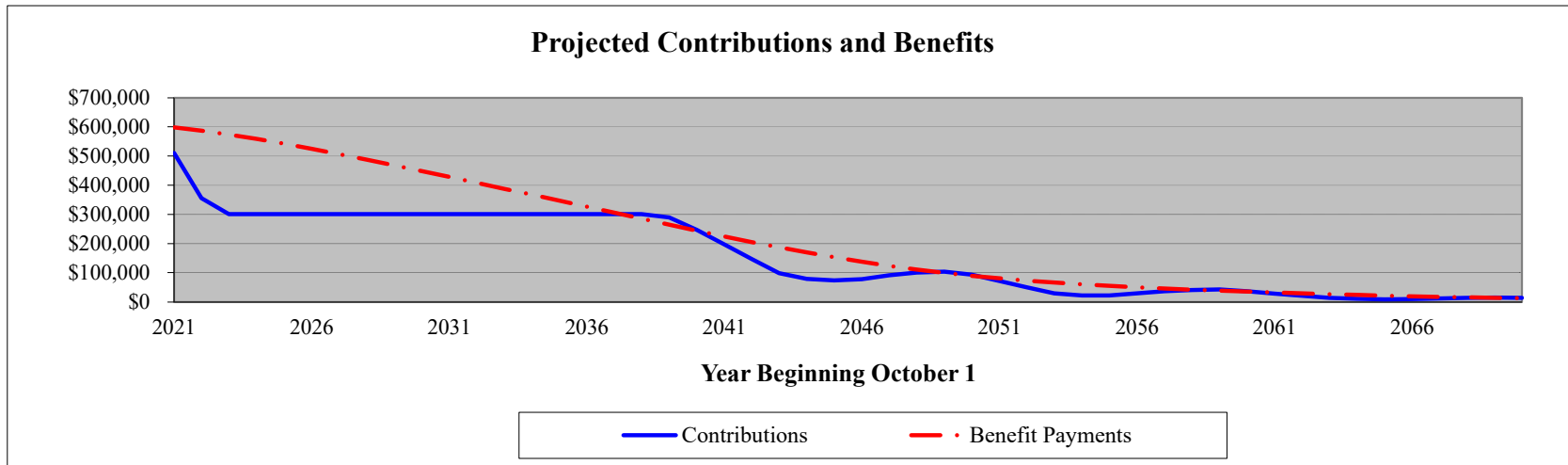
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$133,225,319	\$1,886,200	0.00226	\$511,340	\$598,254	\$111,525	\$24,611	\$1,910,811	2022
2022	133,225,319	1,910,811	0.00226	355,712	587,001	108,710	(122,579)	1,788,232	2023
2023	133,225,319	1,788,232	0.00226	301,089	573,695	100,063	(172,543)	1,615,689	2024
2024	133,225,319	1,615,689	0.00226	301,089	558,680	90,071	(167,520)	1,448,169	2025
2025	133,225,319	1,448,169	0.00226	301,089	542,285	80,425	(160,771)	1,287,398	2026
2026	133,225,319	1,287,398	0.00226	301,089	524,807	71,219	(152,499)	1,134,899	2027
2027	133,225,319	1,134,899	0.00226	301,089	506,496	62,539	(142,868)	992,031	2028
2028	133,225,319	992,031	0.00226	301,089	487,561	54,460	(132,012)	860,019	2029
2029	133,225,319	860,019	0.00226	301,089	468,176	47,051	(120,036)	739,982	2030
2030	133,225,319	739,982	0.00226	301,089	448,462	40,376	(106,997)	632,985	2031
2035	133,225,319	356,678	0.00226	301,089	346,845	20,215	(25,541)	331,137	2036
2040	133,225,319	425,889	0.00183	246,825	244,233	25,844	28,436	454,325	2041
2045	133,225,319	284,320	0.00115	73,352	152,777	14,834	(64,591)	219,729	2046
2050	133,225,319	159,789	0.00067	93,454	89,330	9,790	13,914	173,703	2051
2055	133,225,319	102,693	0.00041	21,578	54,799	5,223	(27,998)	74,695	2056
2060	133,225,319	60,587	0.00026	36,205	35,132	3,697	4,770	65,357	2061
2065	133,225,319	41,216	0.00016	9,229	21,236	2,136	(9,871)	31,345	2066
2070	133,225,319	20,870	0.00009	13,247	12,589	1,282	1,940	22,810	2071



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

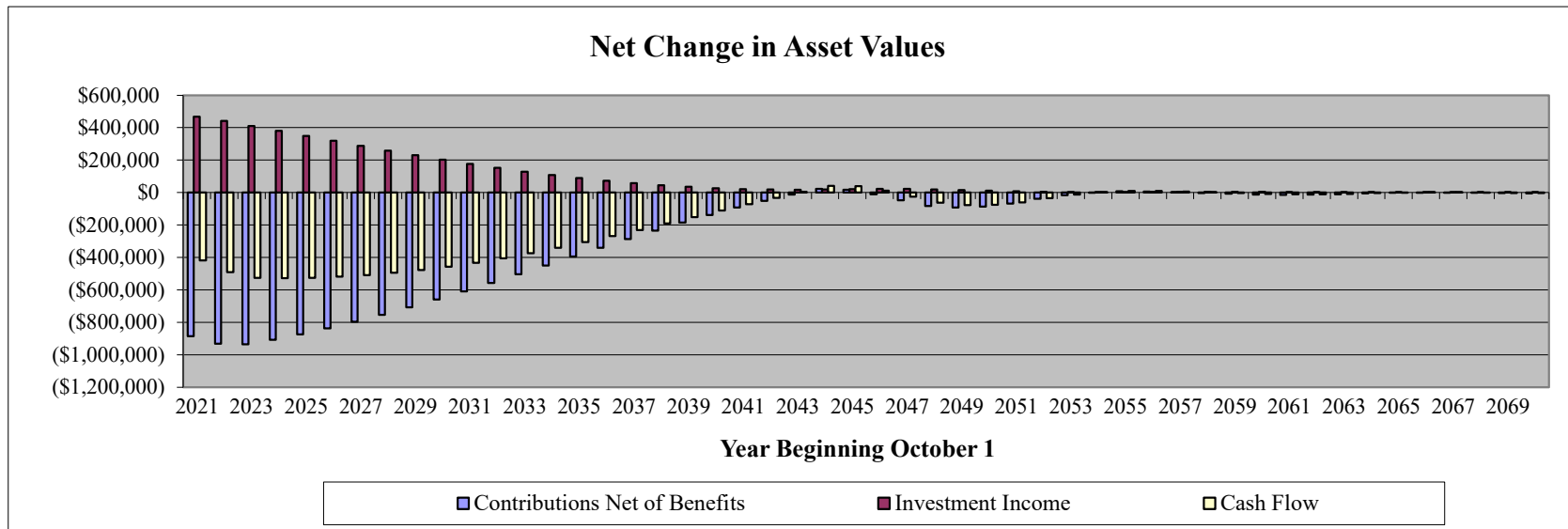
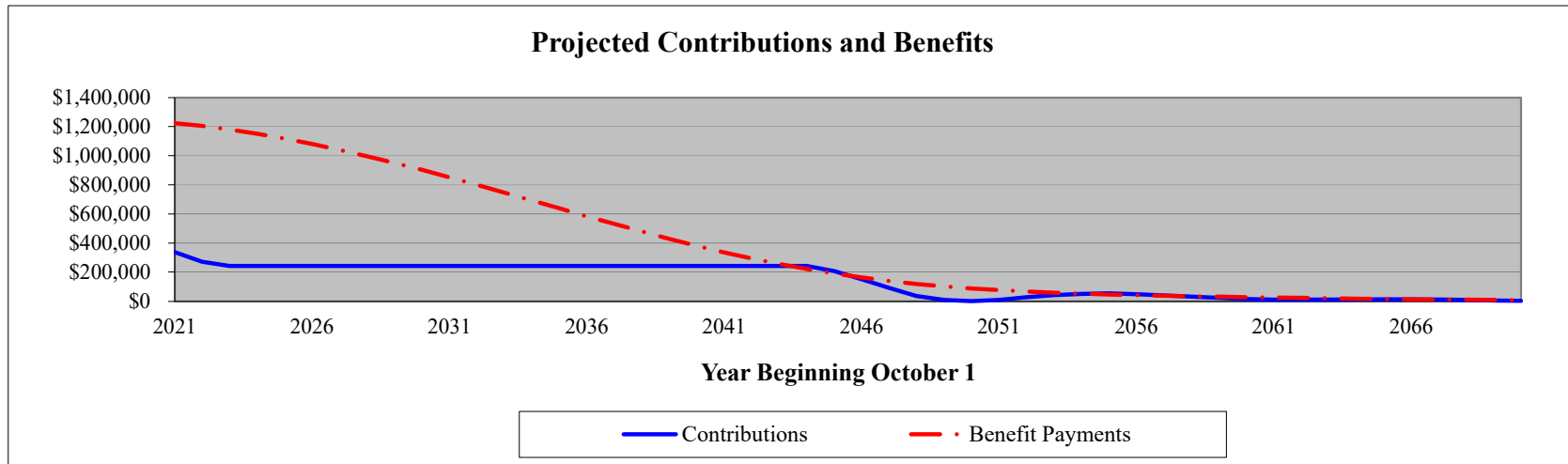
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$227,131,210	\$8,163,049	0.00107	\$337,780	\$1,224,246	\$467,443	(\$419,023)	\$7,744,026	2022
2022	227,131,210	7,744,026	0.00107	271,422	1,203,972	440,718	(491,832)	7,252,194	2023
2023	227,131,210	7,252,194	0.00107	243,030	1,179,538	410,844	(525,664)	6,726,530	2024
2024	227,131,210	6,726,530	0.00107	243,030	1,150,383	379,911	(527,442)	6,199,088	2025
2025	227,131,210	6,199,088	0.00107	243,030	1,117,234	348,988	(525,216)	5,673,872	2026
2026	227,131,210	5,673,872	0.00107	243,030	1,080,458	318,309	(519,119)	5,154,753	2027
2027	227,131,210	5,154,753	0.00107	243,030	1,040,325	288,099	(509,196)	4,645,557	2028
2028	227,131,210	4,645,557	0.00107	243,030	997,109	258,580	(495,499)	4,150,058	2029
2029	227,131,210	4,150,058	0.00107	243,030	951,104	229,974	(478,100)	3,671,958	2030
2030	227,131,210	3,671,958	0.00107	243,030	902,648	202,493	(457,125)	3,214,833	2031
2035	227,131,210	1,660,715	0.00107	243,030	637,971	88,702	(306,239)	1,354,476	2036
2040	227,131,210	512,592	0.00107	243,030	381,018	26,899	(111,089)	401,504	2041
2045	227,131,210	342,921	0.00084	207,499	190,138	21,264	38,625	381,546	2046
2050	227,131,210	226,589	0.00039	788	87,713	11,118	(75,807)	150,782	2051
2055	227,131,210	42,972	0.00020	53,583	46,550	2,809	9,842	52,813	2056
2060	227,131,210	65,529	0.00012	15,278	28,153	3,581	(9,294)	56,234	2061
2065	227,131,210	22,463	0.00007	13,854	15,740	1,303	(583)	21,880	2066
2070	227,131,210	20,923	0.00003	2,251	7,203	1,118	(3,834)	17,089	2071



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

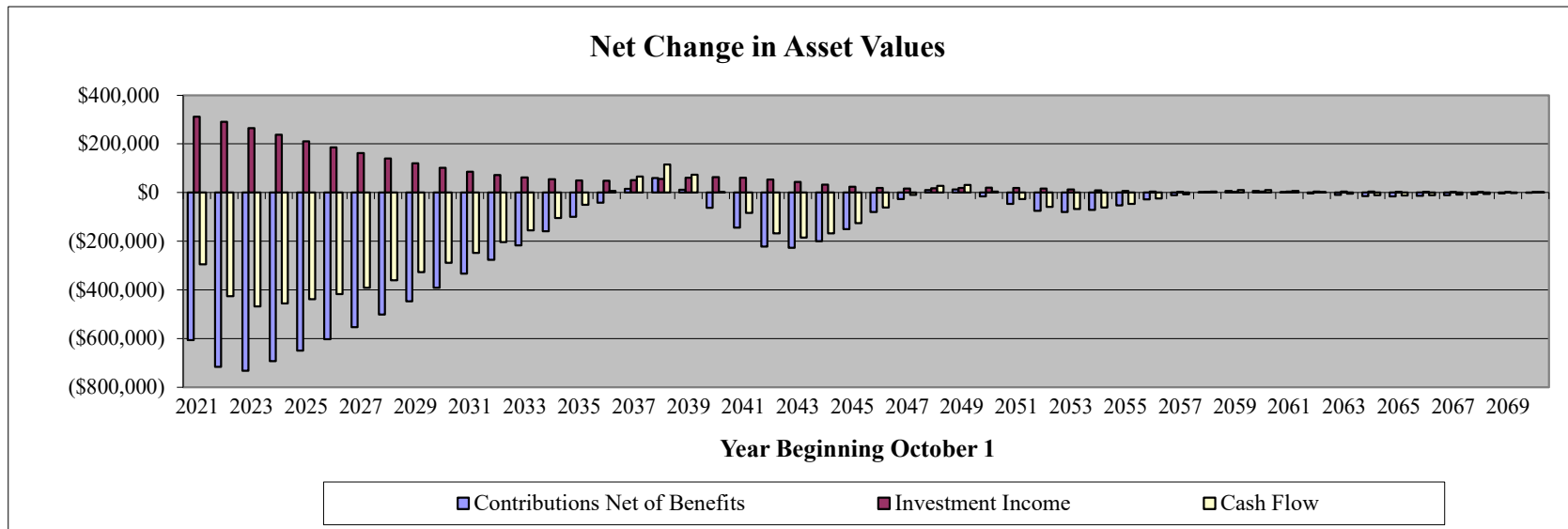
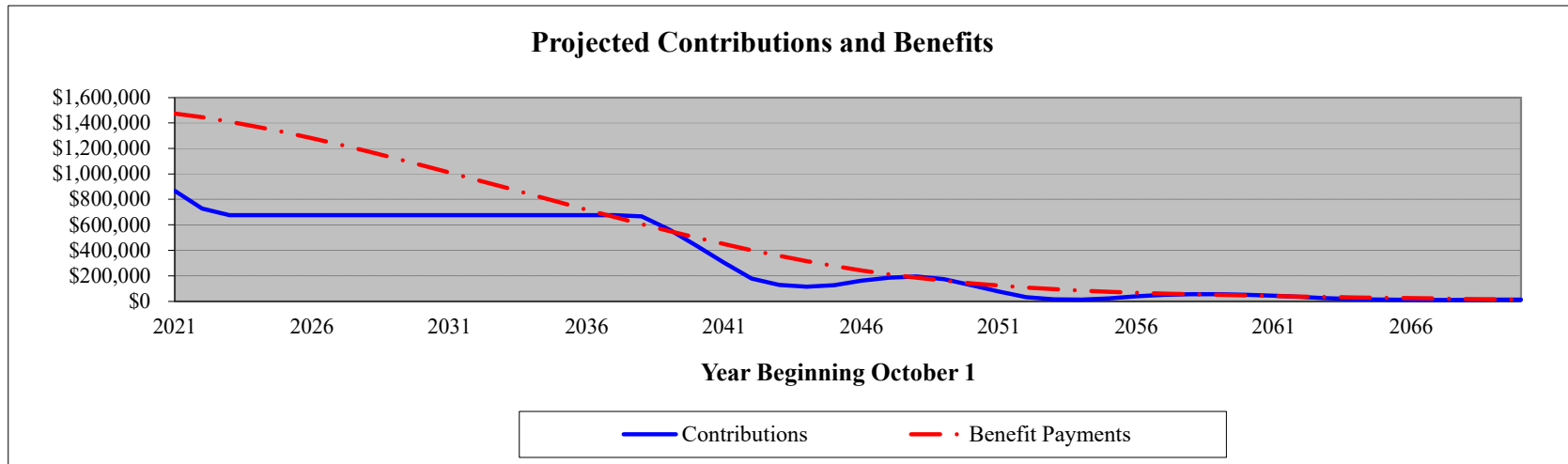
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$545,794,918	\$5,449,740	0.00124	\$868,708	\$1,475,099	\$311,635	(\$294,756)	\$5,154,984	2022
2022	545,794,918	5,154,984	0.00124	727,272	1,444,150	290,509	(426,369)	4,728,615	2023
2023	545,794,918	4,728,615	0.00124	676,786	1,408,829	264,262	(467,781)	4,260,834	2024
2024	545,794,918	4,260,834	0.00124	676,786	1,369,377	237,137	(455,454)	3,805,380	2025
2025	545,794,918	3,805,380	0.00124	676,786	1,326,122	210,871	(438,465)	3,366,915	2026
2026	545,794,918	3,366,915	0.00124	676,786	1,279,461	185,735	(416,940)	2,949,975	2027
2027	545,794,918	2,949,975	0.00124	676,786	1,229,840	161,989	(391,065)	2,558,909	2028
2028	545,794,918	2,558,909	0.00124	676,786	1,177,724	139,883	(361,055)	2,197,854	2029
2029	545,794,918	2,197,854	0.00124	676,786	1,123,562	119,654	(327,122)	1,870,732	2030
2030	545,794,918	1,870,732	0.00124	676,786	1,067,768	101,526	(289,456)	1,581,276	2031
2035	545,794,918	868,956	0.00124	676,786	777,151	49,580	(50,785)	818,171	2036
2040	545,794,918	1,077,908	0.00091	435,607	498,487	63,339	459	1,078,367	2041
2045	545,794,918	474,426	0.00051	126,211	276,738	24,216	(126,311)	348,114	2046
2050	545,794,918	334,756	0.00026	124,780	140,348	19,789	4,221	338,977	2051
2055	545,794,918	124,194	0.00014	22,199	74,597	5,952	(46,446)	77,748	2056
2060	545,794,918	59,336	0.00008	50,412	44,621	3,762	9,553	68,889	2061
2065	545,794,918	60,210	0.00005	11,385	26,717	3,186	(12,146)	48,065	2066
2070	545,794,918	20,825	0.00002	11,653	12,806	1,226	73	20,898	2071



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

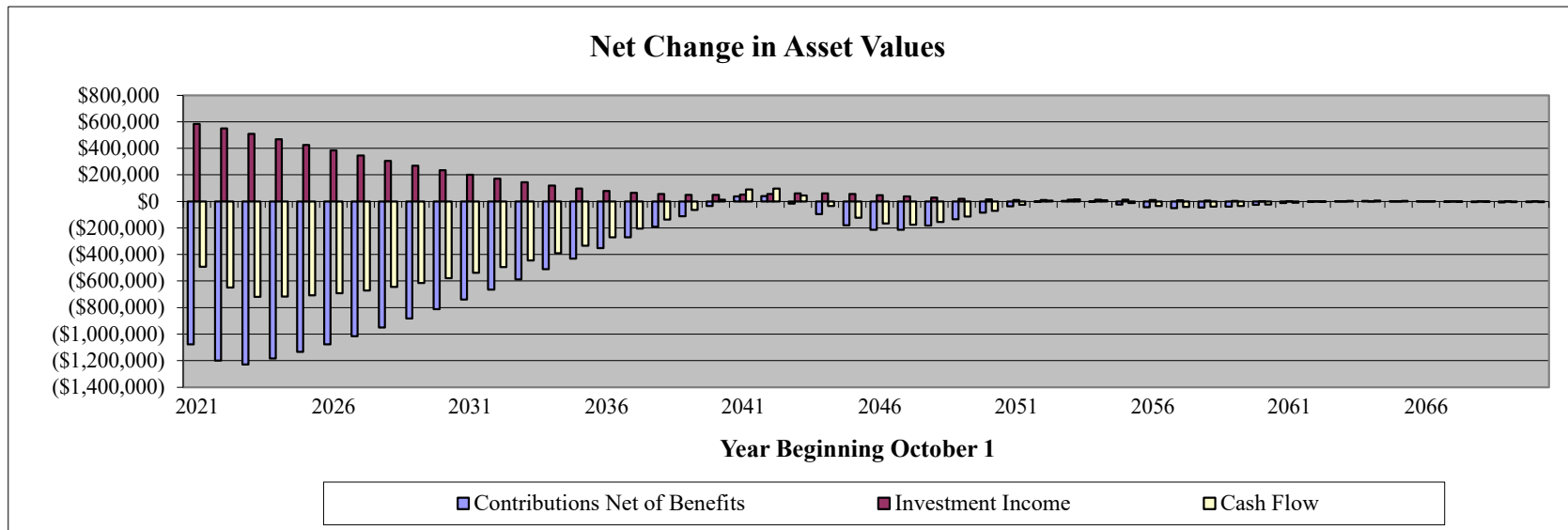
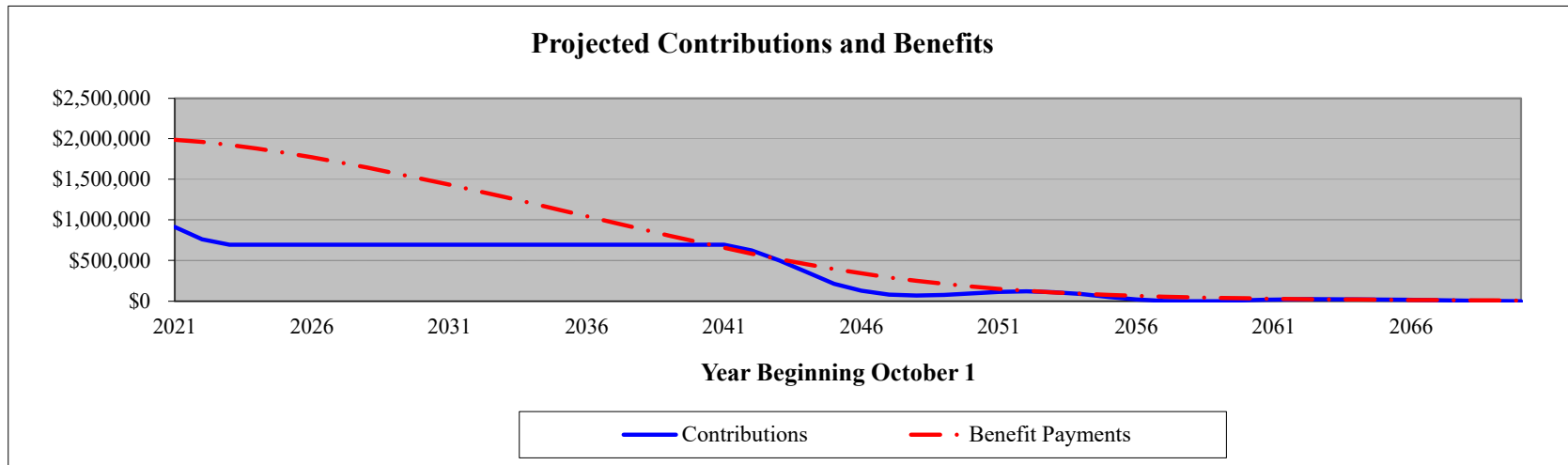
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<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>
2021	\$308,408,615	\$10,173,147	0.00225	\$913,462	\$1,989,837	\$583,393	(\$492,982)	\$9,680,164	2022
2022	308,408,615	9,680,164	0.00225	761,769	1,960,310	549,926	(648,615)	9,031,549	2023
2023	308,408,615	9,031,549	0.00225	693,919	1,922,636	509,786	(718,931)	8,312,619	2024
2024	308,408,615	8,312,619	0.00225	693,919	1,877,776	467,628	(716,229)	7,596,390	2025
2025	308,408,615	7,596,390	0.00225	693,919	1,826,712	425,818	(706,975)	6,889,415	2026
2026	308,408,615	6,889,415	0.00225	693,919	1,770,351	384,726	(691,706)	6,197,709	2027
2027	308,408,615	6,197,709	0.00225	693,919	1,709,511	344,691	(670,901)	5,526,809	2028
2028	308,408,615	5,526,809	0.00225	693,919	1,644,910	306,027	(644,964)	4,881,844	2029
2029	308,408,615	4,881,844	0.00225	693,919	1,577,131	269,027	(614,185)	4,267,660	2030
2030	308,408,615	4,267,660	0.00225	693,919	1,506,614	233,970	(578,725)	3,688,935	2031
2035	308,408,615	1,819,684	0.00225	693,919	1,124,814	97,248	(333,647)	1,486,036	2036
2040	308,408,615	809,478	0.00225	693,919	729,833	47,903	11,989	821,467	2041
2045	308,408,615	1,015,210	0.00128	213,845	393,972	56,051	(124,076)	891,134	2046
2050	308,408,615	278,509	0.00058	93,514	177,921	14,334	(70,073)	208,435	2051
2055	308,408,615	214,171	0.00024	49,947	74,414	12,228	(12,239)	201,932	2056
2060	308,408,615	51,022	0.00011	8,175	33,392	2,335	(22,882)	28,140	2061
2065	308,408,615	24,029	0.00005	17,868	15,423	1,527	3,972	28,001	2066
2070	308,408,615	19,732	0.00002	0	5,661	1,025	(4,636)	15,096	2071



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 6.25% 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>
2021	\$55,250,160	\$208,652	0.00343	\$170,315	\$197,115	\$11,825	(\$14,975)	\$193,676	2022
2022	55,250,160	193,676	0.00360	182,602	196,116	11,315	(2,199)	191,477	2023
2023	55,250,160	191,477	0.00352	196,552	194,417	11,648	13,783	205,260	2024
2024	55,250,160	205,260	0.00347	195,538	191,983	12,524	16,079	221,339	2025
2025	55,250,160	221,339	0.00342	192,591	188,793	13,504	17,302	238,642	2026
2026	55,250,160	238,642	0.00335	189,590	184,840	14,579	19,329	257,971	2027
2027	55,250,160	257,971	0.00326	185,828	180,136	15,777	21,469	279,440	2028
2028	55,250,160	279,440	0.00316	168,221	174,710	16,713	10,224	289,664	2029
2029	55,250,160	289,664	0.00305	147,844	168,605	16,906	(3,855)	285,808	2030
2030	55,250,160	285,808	0.00293	126,418	161,877	16,235	(19,224)	266,584	2031
2035	55,250,160	176,821	0.00220	121,616	121,584	10,699	10,731	187,552	2036
2040	55,250,160	163,026	0.00142	40,476	78,709	8,723	(29,510)	133,516	2041
2045	55,250,160	67,452	0.00076	37,867	41,855	3,962	(26)	67,426	2046
2050	55,250,160	50,504	0.00030	2,479	16,647	2,633	(11,535)	38,968	2051
2055	55,250,160	7,529	0.00008	1,650	4,271	377	(2,244)	5,285	2056
2060	55,250,160	3,593	0.00001	0	583	200	(383)	3,210	2061
2065	55,250,160	3,174	0.00000	0	36	191	155	3,329	2066
2070	55,250,160	4,171	0.00000	0	1	252	251	4,422	2071



Mississippi Municipal Retirement Systems
City of Yazoo City

50 Year Cash Flow Projection
Based on Valuation Assumptions

