



**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, 2020**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

November 30, 2020

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, 2021. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2020.

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.

Since the previous valuation, there have been no changes in any actuarial assumptions. However, the following plan changes have been made since the previous valuation:

- The City of Biloxi removed the 64.4% limit on benefit increases for retirees, and
- 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, 2019.

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.

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  
November 30, 2020  
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Future actuarial results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

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.

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 'Jonathan T. Craven'.

Jonathan T. Craven, ASA, EA, FCA, MAAA  
Consulting Actuary

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

Ben Mobley, ASA, FCA, MAAA  
Senior Actuary



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**REPORT ON THE ANNUAL VALUATION OF THE  
MISSISSIPPI MUNICIPAL RETIREMENT SYSTEMS  
PREPARED AS OF JUNE 30, 2020**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2020, 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, 2020. Please note that the remaining active members of the Plan retired in the last fiscal year and therefore, the Plan has only retired members remaining.

VALUATION DATE	June 30, 2020	June 30, 2019
Active members included in valuation		
Number	0	2
Annual compensation	\$ 0	\$ 94,871
Retirees		
Number	1,585	1,634
Annual allowances	\$ 31,819,367	\$ 32,423,308
Assets		
Market related actuarial value	\$ 140,731,034	\$ 147,670,934
Market value	\$ 136,780,881	\$ 148,463,405
Unfunded Accrued Liability	\$ 145,705,405	\$ 148,335,091

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



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 6.25% 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. There have been no changes since the previous valuation.
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 Biloxi removed the 64.4% Cost-of-Living Adjustment provision cap of a member's monthly benefit.
  - 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, 2019.
7. The table on the following page provides a ten-year history of some pertinent figures.



## Mississippi Municipal Retirement Systems

### Comparative Schedule

Valuation Date Jun 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
2011	25	\$1,357	\$54,274	2.9%	2,016	.01	\$35,164.6	2,591.3%	\$363,604	\$167,604	\$196,000
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

\* 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 as the last two active members retired this past fiscal year. However, there are still 1,585 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, 2020 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

### **Retired Lives**

<b>Employers</b>	<b>Retirement</b>	<b>Disability</b>	<b>Survivor</b>	<b>Total</b>	<b>Annual Benefit</b>
Biloxi	34	5	40	79	\$1,916,194
Clarksdale	27	2	19	48	620,857
Clinton	28	0	5	33	926,728
Columbus	37	3	28	68	1,097,142
Greenville	36	0	31	67	904,350
Greenwood	27	0	23	50	738,542
Gulfport	44	8	29	81	1,782,780
Hattiesburg	95	6	38	139	3,336,209
Jackson	306	7	210	523	11,282,114
Laurel	45	3	26	74	972,626
McComb	10	2	9	21	315,307
Meridian	96	1	55	152	2,271,929
Natchez	22	3	18	43	644,133
Pascagoula	36	3	23	62	1,275,767
Tupelo	44	1	28	73	1,473,610
Vicksburg	28	2	30	60	2,049,551
Yazoo City	8	0	4	12	211,528
<b>Total in MRS</b>	<b>923</b>	<b>46</b>	<b>616</b>	<b>1,585</b>	<b>\$31,819,367</b>





### **SECTION III – COMPUTED EMPLOYER CONTRIBUTION RATES**

**Mississippi Municipal Retirement Systems  
Computed Employer Contribution Rates<sup>1</sup>  
As of June 30, 2020 for the 2022 Fiscal Year End**

<b>Municipality</b>	<b>Certified Rate for Fiscal Year Ending 9/30/2021</b>	<b>Current Millage Rate for Fiscal Year Ending 9/30/2021</b>	<b>Calculated Rate for Fiscal Year Ending 9/30/2022</b>	<b>Certified Rate<sup>2</sup> for Fiscal Year Ending 9/30/2022</b>
Biloxi	1.70	2.02	1.81	1.81
Clarksdale	5.15	5.15	5.38	5.38
Clinton	0.85	0.85	0.93	0.93
Columbus	5.82	5.82	5.35	5.35
Greenville	2.57	2.57	2.58	2.58
Greenwood	3.32	3.32	3.28	3.28
Gulfport	1.07	1.23	1.06	1.06
Hattiesburg	2.83	2.83	2.86	2.86
Jackson	3.82	3.82	3.79	3.79
Laurel	2.36	4.46	2.10	2.10
McComb	1.74	2.90	1.65	1.65
Meridian	2.02	2.50	2.02	2.02
Natchez	2.99	3.90	3.06	3.06
Pascagoula	1.23	1.23	1.57	1.57
Tupelo	1.46	1.61	1.53	1.53
Vicksburg <sup>3</sup>	2.78	2.63	3.17	3.13
Yazoo City	3.46	3.57	2.93	2.93

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

<sup>2</sup> Calculated using cash flow projections and 6.25% investment return assumption (see Schedule H)

<sup>3</sup> The certified rate for the 2022 fiscal year for Vicksburg 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.



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	2015	2016	2017	2018	2019	Average % Increase
Biloxi	\$546,242,975	\$574,544,932	\$592,181,786	\$579,988,410	\$585,246,074	1.7
Clarksdale	85,157,047	85,193,003	83,414,667	84,564,374	83,760,178	(0.4)
Clinton	208,834,622	208,729,466	207,772,348	215,682,895	216,824,192	0.9
Columbus	201,353,637	199,814,257	208,552,785	203,048,379	207,384,299	0.7
Greenville	201,281,727	198,785,980	193,778,841	198,137,988	201,216,099	0.0
Greenwood	110,861,169	110,569,319	113,719,820	115,001,002	115,862,323	1.1
Gulfport	711,742,489	737,909,261	749,196,904	761,757,224	805,811,344	3.2
Hattiesburg	432,115,121	437,346,637	470,026,110	467,912,761	473,044,936	2.3
Jackson	1,196,316,148	1,197,598,015	1,201,390,327	1,207,182,951	1,252,499,510	1.2
Laurel	169,085,361	166,322,618	180,736,668	182,758,430	188,151,450	2.7
McComb	94,847,079	100,951,928	102,003,113	102,851,829	106,190,926	2.9
Meridian	331,879,752	342,244,755	341,865,756	347,111,909	355,154,627	1.7
Natchez	132,429,491	139,808,455	153,395,477	128,903,757	124,775,441	(1.5)
Pascagoula	234,077,905	234,224,731	235,913,098	245,159,735	228,725,988	(0.6)
Tupelo	464,811,369	497,690,205	497,231,537	505,969,659	520,896,796	2.9
Vicksburg	322,195,038	326,807,260	327,183,714	322,506,308	288,172,230	(2.8)
Yazoo City	49,226,333	49,956,737	49,268,781	52,021,220	54,792,825	2.7



#### **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, 2021 for six of the municipalities is less than the certified rate for the fiscal year ending September 30, 2022 under the funding policy. Therefore, the municipalities listed below need to increase their millage rate to the certified millage rate for the fiscal year ending September 30, 2022.
  - Clarksdale
  - Greenville
  - Pascagoula
  - Clinton
  - Hattiesburg
  - Vicksburg
2. As shown in the analysis of experience on pages 29 and 30, the System had an actuarial loss for the year. The loss was primarily due to the investment return on the assets for the year being less than expected. Partially offsetting this loss, there was a gain due to more retiree and beneficiary deaths than expected.
3. From 2018 to 2019, the value of assessed property increased for thirteen and decreased for four 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.
4. Please note that on page 5, the City of Vicksburg has a calculated millage rate for the fiscal year ending September 30, 2022 that is actually 3.17 mills but per plan statutes, the certified millage rate can only increase by 0.50 mills from their current millage rate. Therefore, the certified millage rate for Vicksburg is 3.13 mills for the fiscal year ending September 30, 2022.



## **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, 2020**

<b>GROUP</b>	<b>NUMBER</b>
Retired participants and beneficiaries currently receiving benefits	1,585
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Inactive Participants	0
Active Participants	<u>0</u>
Total	1,585



2. The actuarial accrued liability is as follows:

**ACTUARIAL ACCRUED LIABILITY**

Municipality	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio
Biloxi	\$19,440,227	\$8,224,050	\$11,216,177	42.30%
Clarksdale	5,429,949	1,126,232	4,303,717	20.74
Clinton	10,208,468	8,884,415	1,324,053	87.03
Columbus	9,236,237	1,048,111	8,188,126	11.35
Greenville	7,816,051	2,573,549	5,242,502	32.93
Greenwood	6,442,969	2,615,760	3,827,209	40.60
Gulfport	17,550,526	8,223,887	9,326,639	46.86
Hattiesburg	33,711,846	19,645,392	14,066,454	58.27
Jackson	95,735,228	47,759,051	47,976,177	49.89
Laurel	8,985,165	4,362,923	4,622,242	48.56
McComb	2,938,012	965,213	1,972,799	32.85
Meridian	19,218,934	11,906,902	7,312,032	61.95
Natchez	5,847,357	1,753,132	4,094,225	29.98
Pascagoula	10,640,668	7,247,209	3,393,459	68.11
Tupelo	12,966,043	4,860,556	8,105,487	37.49
Vicksburg	18,334,370	9,206,868	9,127,502	50.22
Yazoo City	1,934,389	327,784	1,606,605	16.95
<b>Totals</b>	<b>\$286,436,439</b>	<b>\$140,731,034</b>	<b>\$145,705,405</b>	<b>49.13%</b>

During the year ended June 30, 2020, the Systems experienced a net decrease of \$9,569,579 in the actuarial accrued liability.



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 decreased over the first two years of the 10-year period but the funded ratio has begun to slowly improve in recent years, though it is down for 2019 and 2020 due to the investment experience. 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)
09/30/11	\$167,604	\$363,604	46.1%	\$196,000	\$1,357	14,443.6%
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

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



### History of Funding Progress

Municipality	Actuarial Value of Assets as Percentage of AAL									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Biloxi	43.06%	39.41%	38.18%	39.49%	39.55%	40.41%	41.27%	44.17%	44.50%	42.30%
Clarksdale	19.43	19.99	23.82	23.18	26.51	27.32	26.80	26.10	22.74	20.74
Clinton	79.26	75.02	74.38	79.09	82.74	84.38	87.19	87.20	87.00	87.03
Columbus	11.80	10.74	11.29	13.10	10.54	9.82	9.49	9.76	10.09	11.35
Greenville	36.89	34.25	34.11	36.12	36.64	35.56	35.41	34.58	34.19	32.93
Greenwood	36.63	34.72	35.05	36.61	38.27	39.47	40.56	41.40	41.18	40.60
Gulfport	49.00	46.37	45.03	46.99	47.63	47.01	47.60	48.56	49.64	46.86
Hattiesburg	57.32	54.17	53.82	56.90	58.53	58.29	58.68	59.86	58.67	58.27
Jackson	51.61	48.80	48.35	50.83	51.49	50.95	51.24	52.25	51.17	49.89
Laurel	27.31	26.79	29.51	33.03	36.20	40.17	40.07	43.23	45.54	48.56
McComb	32.26	27.48	25.52	24.99	25.49	25.94	27.40	30.28	31.83	32.85
Meridian	31.34	31.22	33.90	38.17	42.40	48.51	55.76	59.84	62.08	61.95
Natchez	28.24	28.55	30.03	30.21	29.61	30.24	29.45	27.79	30.54	29.98
Pascagoula	53.47	50.75	52.53	57.57	59.64	60.57	62.75	66.07	67.89	68.11
Tupelo	45.59	42.81	42.51	44.96	44.31	43.82	43.26	42.41	39.79	37.49
Vicksburg	52.28	47.83	49.26	52.08	53.82	53.77	53.02	53.64	49.63	50.22
Yazoo City	21.98	22.32	21.96	16.66	20.20	18.42	17.25	19.12	17.49	16.95



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, 2020 is 14 years. The calculation of this amount is shown below.

**2020/2021 FISCAL YEAR  
ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)  
BASED ON THE VALUATION AS OF JUNE 30, 2020**

<b>ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)</b>	
Normal	\$ 0
Accrued liability	<u>17,118,242</u>
Total	\$ 17,118,242

5. Additional information as of June 30, 2020 follows.

Valuation date	6/30/20
Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	14 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases <sup>#</sup>	3.00% - 4.50%
*Includes price inflation at	2.75%
<sup>#</sup> Includes wage inflation at	3.00%
Cost of living adjustments	2.00% - 3.75% depending upon municipality





### Schedule of Employer Contributions

Fiscal Year 10/1-9/30	Valuation date	Actuarially Determined Contribution	Percentage Contributed
2011-12	9/30/2011	\$18,751,144	127.0%
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	N/A
2020-21	6/30/2020	17,118,242	N/A

### Contributions Required and Contributions Made

Municipality	Actuarially Determined Contribution	Actual 2018 – 2019 Contribution	Percentage Contributed
Biloxi	\$1,234,819	\$1,366,963	110.7%
Clarksdale	452,199	368,321	81.5
Clinton	152,534	222,032	145.6
Columbus	990,461	1,105,871	111.7
Greenville	627,070	557,823	89.0
Greenwood	454,791	446,779	98.2
Gulfport	1,072,021	1,060,100	98.9
Hattiesburg	1,549,927	1,407,181	90.8
Jackson	5,407,384	5,569,717	103.0
Laurel	612,499	787,708	128.6
McComb	232,212	301,580	129.9
Meridian	939,209	1,331,318	141.8
Natchez	534,172	546,000	102.2
Pascagoula	417,908	762,066	182.4
Tupelo	821,864	807,577	98.3
Vicksburg	1,001,544	294,277	29.4
Yazoo City	194,285	178,623	91.9
Total	\$ 16,694,899	\$ 17,113,936	102.5%



### Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Number	Active Members		
			Annual Payroll	Annual Average Pay	% Increase in Average Pay
9/30/11	17	25	\$1,356,858	\$54,274	2.9%
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

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

Item	Fiscal Year Ended September 30									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Beginning of Year	2,056	2,016	1,978	1,941	1,890	1,849	1,798	1,754	1,694	1,634
Added	46	39	40	29	40	46	34	36	37	34
Removed	(86)	(77)	(77)	(80)	(81)	(97)	(78)	(96)	(97)	(83)
End of Year	2,016	1,978	1,941	1,890	1,849	1,798	1,754	1,694	1,634	1,585

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



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

Year Ending	2015	2016	2017	2018	2019	2020
Beginning of Year	\$34,723,473	\$34,478,364	\$34,088,404	\$33,751,528	\$32,997,690	\$32,423,308
Added	731,337	842,966	712,490	674,428	736,820	654,407
Removed	(1,119,680)	(1,365,194)	(1,174,872)	(1,530,600)	(1,441,224)	(1,386,860)
Benefit increase due to annual COLA	143,234	132,268	125,506	102,334	130,022	128,512
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	\$34,478,364	\$34,088,404	\$33,751,528	\$32,997,690	\$32,423,308	\$31,819,367



**Schedule of Average Benefit Payments**

	Years of Credited Service								TOTAL
	0-9	10-14	15-19	20-24	25	26-29	30	31+	
July 1, 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
July 1, 2014 to June 30, 2015									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$2,898	\$2,912	\$2,907
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$51,253	\$56,520	\$54,764
Number of Active Retirants	0	0	0	0	0	0	1	2	3



**SCHEDULE A**  
**Development of Actuarial Value of Assets**

	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2023	6/30/2024
A. Actuarial Value Beginning of Year	\$154,748,504	\$147,670,934				
B. Market Value End of Year	148,463,405	136,780,881				
C. Market Value Beginning of Year	154,277,003	148,463,405				
D. Cash Flow						
D1. Contributions	17,129,032	16,621,094				
D2. Other Revenue	0	0				
D3. Benefit Payments	(32,934,847)	(32,169,935)				
D4. Administrative Expenses	(342,279)	(331,418)				
D5. Net	(16,148,094)	(15,880,259)				
E. Investment Income						
E1. Market Total: B.-C.-D5.	10,334,496	4,197,735				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	11,330,729	10,890,554				
E4. Amount for Phased-In Recognition	(996,233)	(6,692,819)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(199,247)	(1,338,564)	0	0	0	0
F2. First Prior Year	74,382	(199,247)	(1,338,564)	0	0	0
F3. Second Prior Year	1,853,071	74,382	(199,247)	(1,338,564)	0	0
F4. Third Prior Year	(2,339,837)	1,853,071	74,382	(199,247)	(1,338,564)	0
F5. Fourth Prior Year	<u>(1,648,574)</u>	<u>(2,339,837)</u>	<u>1,853,071</u>	<u>74,382</u>	<u>(199,247)</u>	<u>(1,338,564)</u>
F6. Total Recognized Investment Gain	(2,260,205)	(1,950,195)	389,642	(1,463,429)	(1,537,811)	(1,338,564)
G. Adjustment:	0	0				
H. Actuarial Value End of Year:						
A.+D5.+E3.+F6.+G.	\$147,670,934	\$140,731,034				
I. Difference Between Market & Actuarial Values	792,471	(3,950,153)	(4,339,795)	(2,876,366)	(1,338,555)	9

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: 7.75% per annum, compounded annually (net after investment expenses) for GASB disclosure.

6.25% per annum, compounded annually (net after investment expenses) for employer contribution rate determination.

PRICE INFLATION: 2.75% per annum, compounded annually.

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

Age	Withdrawal	Death	Disability*
20	10.65%	.06%	.14%
25	8.64	.08	.24
30	6.87	.12	.44
35	4.86	.16	.76
40	2.97	.22	.96
45	1.44	.31	1.18
50	0.24	.48	1.98
55	0.00	.64	2.76
60	0.00	.83	3.50
64	0.00	.99	4.24

\* No rates of disability for greater than 20 years of service.

Service Retirement	
Years of Service	Percent
20	45.0%
21-28	17.5
29-33	35.0
34 and over	20.0
Age 65	100.0



SALARY INCREASES: 3.00% for wage inflation plus the following chart.

Ages	Merit and Seniority Salary Increase
Under 43	1.50%
43 – 47	1.00
48 – 52	0.50
53 and Over	0.00

DEATH AFTER RETIREMENT: The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the PubS.H-2010(B) Retiree Table with the following adjustments:

- For males, 112% of male rates from ages 18 to 75 scaled down to 105% for ages 80 to 119.
- For females, 85% of the female rates from ages 18 to 65 scaled up to 102% for ages 75 to 119.
- Projection scale MP-2018 is used to project future improvements in life expectancy generationally.

The PubT.H-2010 Disabled Retiree Table is used for disabled retirees with the following adjustments - 137% of male rates at all ages and 115% of female rates at all ages. Projection scale MP-2018 is used to project future improvements in life expectancy generationally.

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 C**

### **SUMMARY OF BENEFIT PROVISIONS EVALUATED**

The following summary presents the main provisions of the Systems in effect June 30, 2020, as interpreted in preparing the actuarial valuation. As used in the summary, "average compensation" means the average compensation of a member during the six month period prior to receipt of an allowance.

### **BENEFITS**

#### **Service Retirement**

##### **Condition for Retirement**

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

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

##### **Amount of Allowance**

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

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

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

#### **Disability Retirement**

##### **Condition for Retirement**

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





Amount of Allowance

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

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

**Death Benefit**

Conditions for Benefit

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

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

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

Amount of Benefit

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

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.



## Minimum Allowances

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

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

## Post-Retirement Adjustments In Allowances

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

Those adjustments are limited as follows:

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

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

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

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

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

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



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

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

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

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

Meridian: All retirees and beneficiaries who were receiving a retirement allowance as of June 30, 1999 were granted a 3.9% ad-hoc benefit increase.

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.



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 THE DATA**

**RECONCILIATION OF DATA RECEIVED FROM PERS**

Reconciliation of Data received from PERS	Active File			Pensioner File			Total
	Active	Inactive NonVested	Inactive Vested	Retirees	Disableds	Survivors	
From PERS	2	0	0	973	51	639	1,665
Refunded							
Deceased				(52)	(5)	(23)	(80)
Retired*	(2)			1			(1)
Added				1			1
For Valuation	0	0	0	923	46	616	1,585

\*1 record also included in Pensioner File, 1 record with retired status but no corresponding record on Pensioner File.

**STATUS RECONCILIATION FROM 2019 TO 2020**

	Actives	Retirees	Disability	Survivor	Total
As of June 30, 2019	2	974	51	609	1,636
Retirements	(2)	2			0
Disabilities					
Death with Survivors		(26)	(4)	32	2
Deaths with no Survivors		(27)	(1)	(25)	(53)
Benefits Expired					
Data Corrections					
As of June 30, 2020	0	923	46	616	1,585



**SCHEDULE D**

**Retirants & Beneficiaries as of June 30, 2020**

**Tabulated by Year of Retirement**

Year of Retirement	No.	Annual Benefits excluding COLA	COLA	Total Annual Benefits	Average Monthly Benefit
2020	2	\$ 72,566	\$ 0	\$ 72,566	\$ 3,024
2019	3	96,248	0	96,248	2,674
2018	1	43,396	0	43,396	3,616
2017	2	76,266	2,045	78,311	3,263
2016	4	153,667	6,906	160,573	3,345
2015	1	25,335	0	25,335	2,111
2014	3	111,086	7,331	118,417	3,289
2013	9	364,151	42,610	406,761	3,766
2012	4	164,423	27,917	192,340	4,007
2011	1	25,791	0	25,791	2,149
2010	5	156,183	33,421	189,604	3,160
2009	3	79,418	6,048	85,466	2,374
2008	5	132,896	17,889	150,785	2,513
2007	8	250,897	65,643	316,540	3,297
2006	14	371,190	68,648	439,838	2,618
2005	27	708,241	138,081	846,322	2,612
2004	19	440,730	99,760	540,490	2,371
2003	32	838,940	197,327	1,036,267	2,699
2002	41	1,142,239	282,053	1,424,292	2,895
2001	24	680,771	150,969	831,740	2,888
2000	34	860,401	217,921	1,078,322	2,643
1999	33	789,902	165,631	955,533	2,413
1998	41	981,782	206,984	1,188,766	2,416
1997	51	1,103,845	199,301	1,303,146	2,129
1996	56	1,103,234	187,973	1,291,207	1,921
1995	101	1,757,118	281,893	2,039,011	1,682
1994	131	2,268,249	444,109	2,712,358	1,725
1993	93	1,570,536	316,389	1,886,925	1,691
1992	85	1,424,795	273,034	1,697,829	1,665
1991	70	1,183,070	200,062	1,383,132	1,647
1990	62	930,898	150,194	1,081,092	1,453
1989	45	609,344	131,562	740,906	1,372
1988	73	1,066,447	216,165	1,282,612	1,464
1987	41	503,971	120,329	624,300	1,269
1986 & Prior	461	4,404,530	1,068,616	5,473,146	989
Totals	1,585	\$ 26,492,556	\$ 5,326,811	\$ 31,819,367	\$ 1,673



**SCHEDULE D**

**Schedule of Retired Members by Type of Benefit**

**Benefits Payable June 30, 2020**

Amount of Monthly Benefit	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1 - \$300	9	1	2	6
301 - 600	71	11	2	58
601 - 900	181	65	14	102
901 - 1,200	317	141	18	158
1,201 - 1,500	200	128	7	65
1,501 - 1,800	230	156	1	73
1,801 - 2,100	142	101		41
2,101 - 2,400	139	103		36
2,401 - 2,700	88	64	1	23
Over 2,700	208	153	1	54
Totals	1,585	923	46	616

**\*Type of Retirement**

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



**SCHEDULE D**

**Retirant and Beneficiary Information June 30, 2020  
Tabulated by Attained Ages**

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20 – 24								
25 – 29								
30 – 34								
35 – 39								
40 – 44					1	22,130	1	22,130
45 – 49								
50 – 54					2	30,569	2	30,569
55 – 59	21	608,471			9	173,187	30	781,658
60 – 64	34	1,078,612			24	470,861	58	1,549,473
65 – 69	149	3,786,157	10	154,274	51	990,208	210	4,930,639
70 – 74	270	6,399,799	10	125,972	119	2,199,514	399	8,725,285
75 – 79	192	4,307,680	13	122,209	131	2,303,879	336	6,733,768
80 – 84	138	2,668,342	9	120,109	129	2,132,722	276	4,921,173
85 – 89	91	1,607,487	3	23,645	95	1,419,644	189	3,050,776
90 – 94	25	406,972			46	556,450	71	963,422
95	1	2,826			5	44,180	6	47,006
96	1	11,027			2	19,435	3	30,462
97					1	7,500	1	7,500
98			1	10,777			1	10,777
99	1	7,950			1	6,779	2	14,729
100 & Over								
Totals	923	\$20,885,323	46	\$556,986	616	\$10,377,058	1,585	\$31,819,367





## 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, 2020 is shown below.

		\$ Thousands
(1)	UAAL* as of beginning of year	\$ 148,335.1
(2)	Total normal cost from last valuation	7.6
(3)	Total contributions**	16,289.7
(4)	Interest accrual: $\{[(1) + (2)] \times .0775\} - [(3) \times .03803]$	<u>10,877.1</u>
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 142,930.1
(6)	Change due to plan amendments	2,438.7
(7)	Change due to new actuarial assumptions or methods	<u>0.0</u>
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 145,368.8
(9)	Actual UAAL as of end of year	\$ 145,705.4
(10)	Gain/(loss): (8) – (9)	\$ (336.6)

\*Unfunded actuarial accrued liability.

\*\*Net of administrative expenses.



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

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/20	\$ Gain (or Loss) For Year Ending 6/30/19
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (105.1)	\$ (5.4)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0	0.0
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.6	0.6
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	0.0	0.0
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	0.0	1.4
<b>Investment Income.</b> If there is greater investment income than assumed, there is a gain. If less income, a loss.	(1,900.3)	(2,308.4)
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	1,845.0	1,751.7
<b>Other.</b> Miscellaneous gains and losses resulting from data adjustments, COLAs, etc.	<u>(176.8)</u>	<u>(671.1)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>\$(336.6)</b>	<b>\$(1,231.2)</b>
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, or method changes.	<u>(2,438.7)</u>	<u>22.3</u>
<b>Composite Gain (or Loss) During Year</b>	<b>\$(2,775.3)</b>	<b>\$(1,208.9)</b>



## **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**

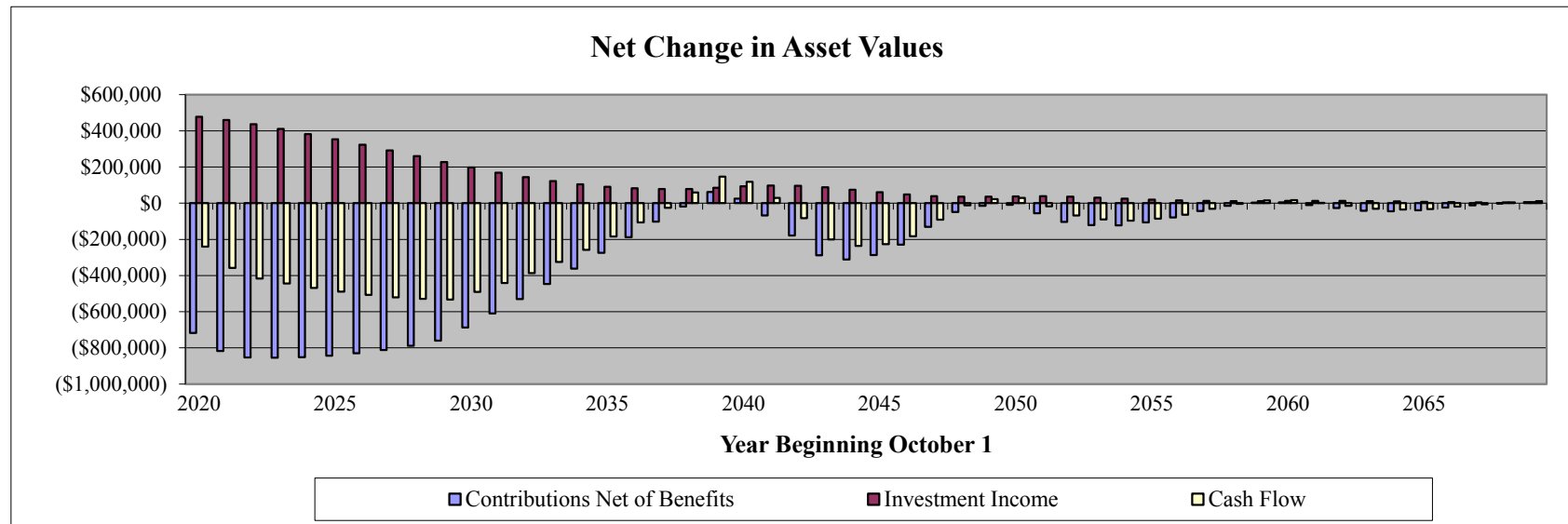
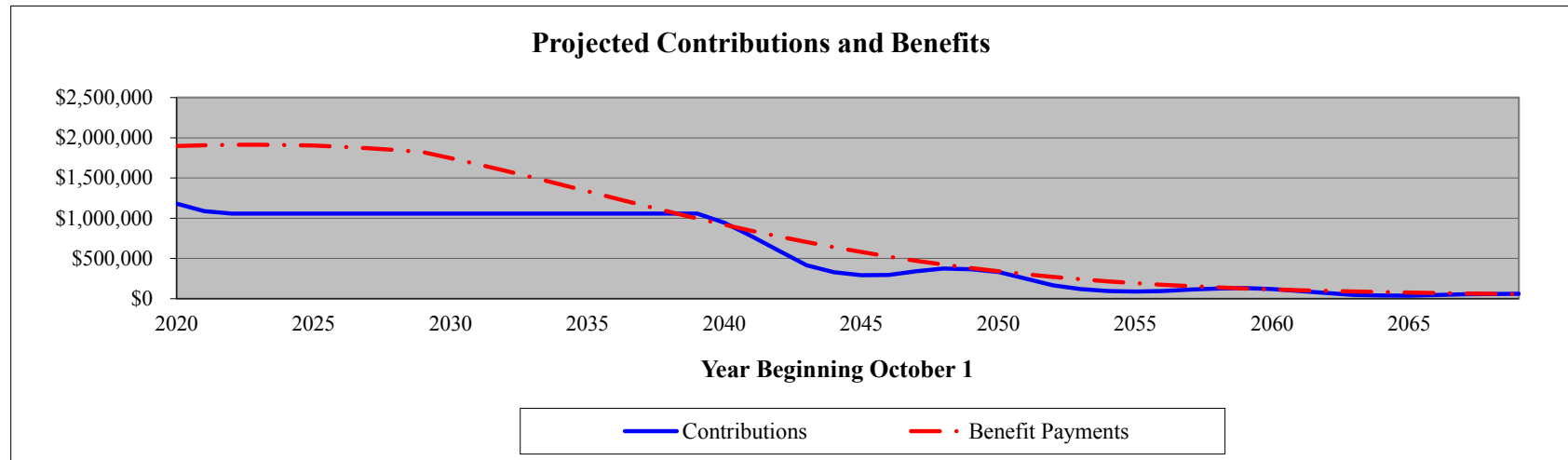
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$585,246,074	\$7,993,210	0.00181	\$1,180,992	\$1,898,695	\$477,487	(\$240,216)	\$7,752,994	2021
2021	585,246,074	7,752,994	0.00181	1,090,021	1,907,409	459,406	(357,982)	7,395,012	2022
2022	585,246,074	7,395,012	0.00181	1,059,295	1,912,478	435,930	(417,253)	6,977,760	2023
2023	585,246,074	6,977,760	0.00181	1,059,295	1,913,525	409,820	(444,410)	6,533,350	2024
2024	585,246,074	6,533,350	0.00181	1,059,295	1,910,194	382,147	(468,752)	6,064,598	2025
2025	585,246,074	6,064,598	0.00181	1,059,295	1,902,172	353,097	(489,780)	5,574,818	2026
2026	585,246,074	5,574,818	0.00181	1,059,295	1,889,241	322,883	(507,063)	5,067,755	2027
2027	585,246,074	5,067,755	0.00181	1,059,295	1,871,237	291,746	(520,196)	4,547,559	2028
2028	585,246,074	4,547,559	0.00181	1,059,295	1,847,980	259,950	(528,735)	4,018,823	2029
2029	585,246,074	4,018,823	0.00181	1,059,295	1,819,356	227,785	(532,276)	3,486,548	2030
2034	585,246,074	1,842,880	0.00181	1,059,295	1,421,238	104,041	(257,902)	1,584,978	2035
2039	585,246,074	1,329,245	0.00170	1,059,295	997,284	84,986	146,997	1,476,242	2040
2044	585,246,074	1,338,288	0.00109	328,965	639,727	74,079	(236,683)	1,101,605	2045
2049	585,246,074	588,695	0.00065	365,999	380,059	36,361	22,301	610,997	2050
2054	585,246,074	463,352	0.00037	93,842	216,284	25,191	(97,251)	366,101	2055
2059	585,246,074	180,934	0.00022	130,747	127,015	11,423	15,155	196,089	2060
2064	585,246,074	169,648	0.00014	38,254	82,636	9,237	(35,145)	134,503	2065
2069	585,246,074	80,621	0.00010	61,896	55,948	5,222	11,170	91,790	2070



**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)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$83,760,178	\$1,094,620	0.00538	\$425,212	\$615,490	\$62,558	(\$127,720)	\$966,900	2021
2021	83,760,178	966,900	0.00538	445,814	603,247	55,586	(101,847)	865,053	2022
2022	83,760,178	865,053	0.00538	450,630	589,871	49,780	(89,461)	775,592	2023
2023	83,760,178	775,592	0.00538	450,630	575,476	44,632	(80,214)	695,379	2024
2024	83,760,178	695,379	0.00538	450,630	560,154	40,090	(69,434)	625,944	2025
2025	83,760,178	625,944	0.00538	450,630	543,991	36,248	(57,113)	568,831	2026
2026	83,760,178	568,831	0.00538	450,630	527,049	33,200	(43,219)	525,613	2027
2027	83,760,178	525,613	0.00538	450,630	509,367	31,043	(27,694)	497,919	2028
2028	83,760,178	497,919	0.00538	450,630	490,962	29,879	(10,453)	487,466	2029
2029	83,760,178	487,466	0.00538	450,630	471,832	29,814	8,612	496,078	2030
2034	83,760,178	709,718	0.00436	350,543	365,418	43,900	29,025	738,743	2035
2039	83,760,178	408,741	0.00295	130,389	246,918	21,960	(94,569)	314,172	2040
2044	83,760,178	310,262	0.00164	125,651	137,595	19,024	7,080	317,342	2045
2049	83,760,178	134,547	0.00073	7,755	60,871	6,774	(46,342)	88,205	2050
2054	83,760,178	47,086	0.00025	22,593	20,679	3,002	4,916	52,003	2055
2059	83,760,178	32,263	0.00006	0	5,356	1,852	(3,504)	28,759	2060
2064	83,760,178	24,633	0.00001	0	1,014	1,508	494	25,127	2065
2069	83,760,178	30,127	0.00000	0	113	1,879	1,766	31,893	2070

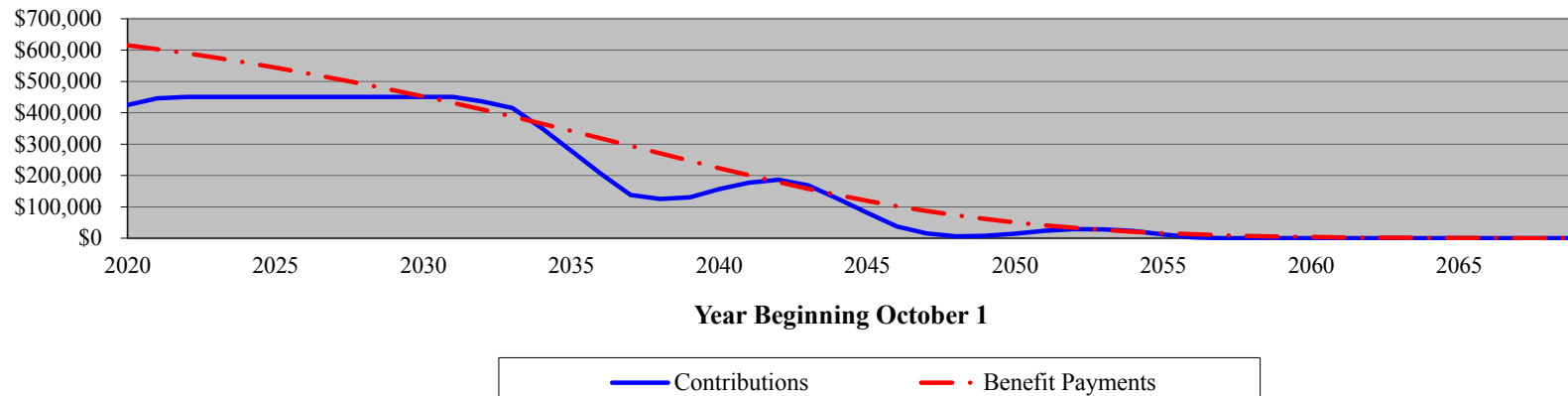




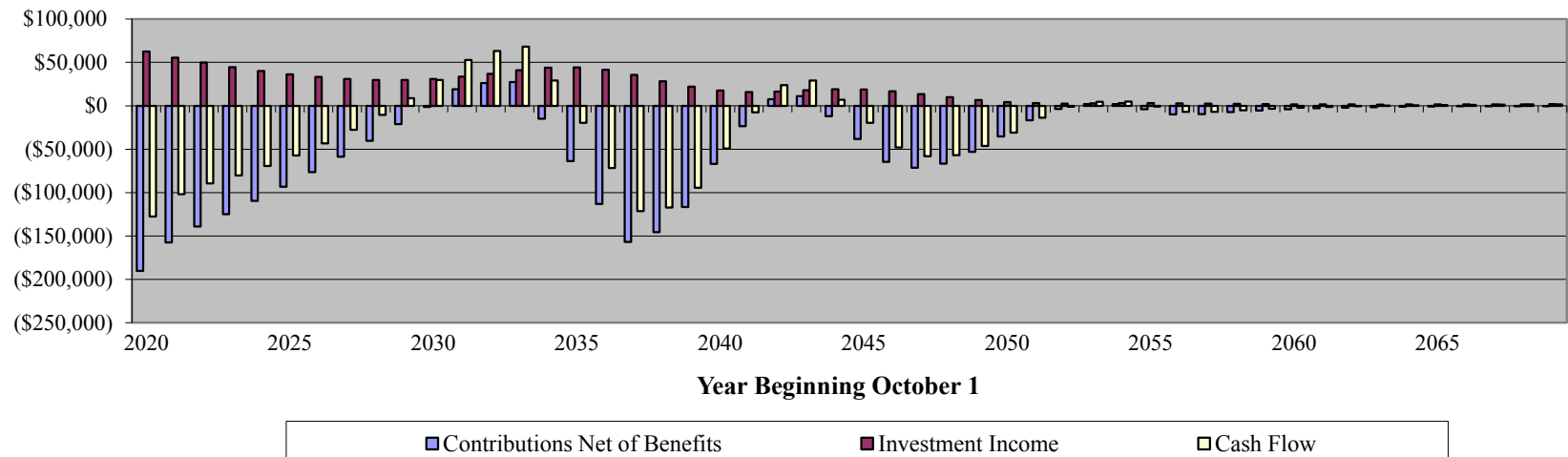
**Mississippi Municipal Retirement Systems  
City of Clarksdale**

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

**Projected Contributions and Benefits**



**Net Change in Asset Values**





**Mississippi Municipal Retirement Systems  
City of Clinton**

**Cash Flow Projection**

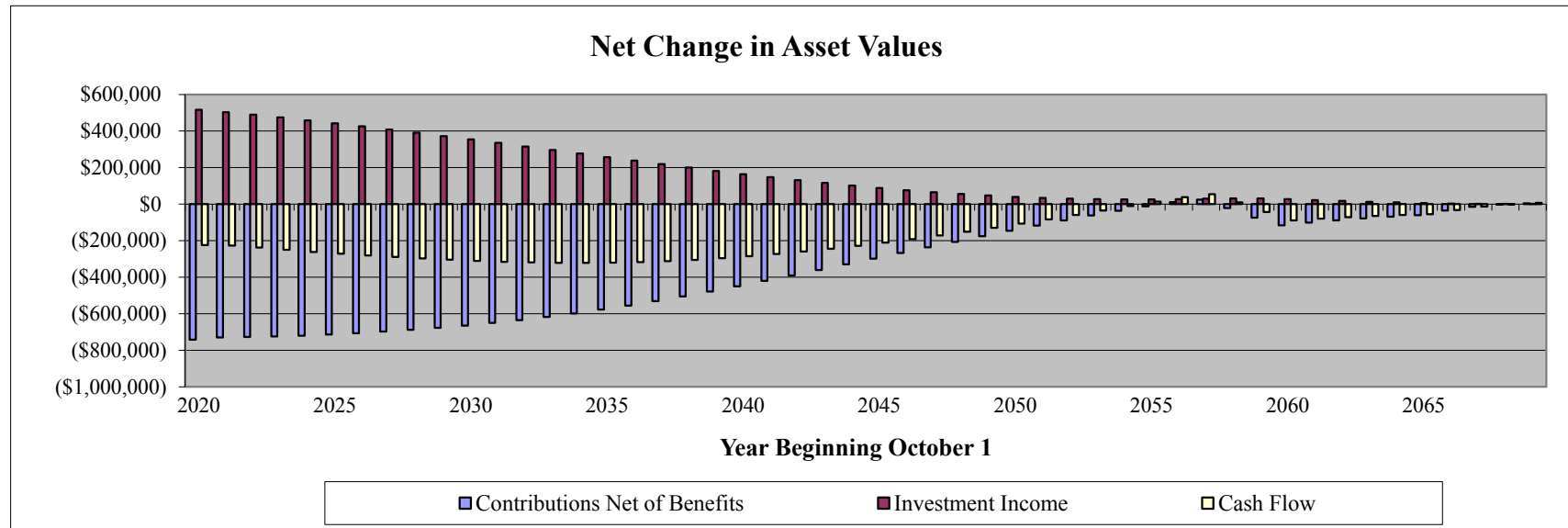
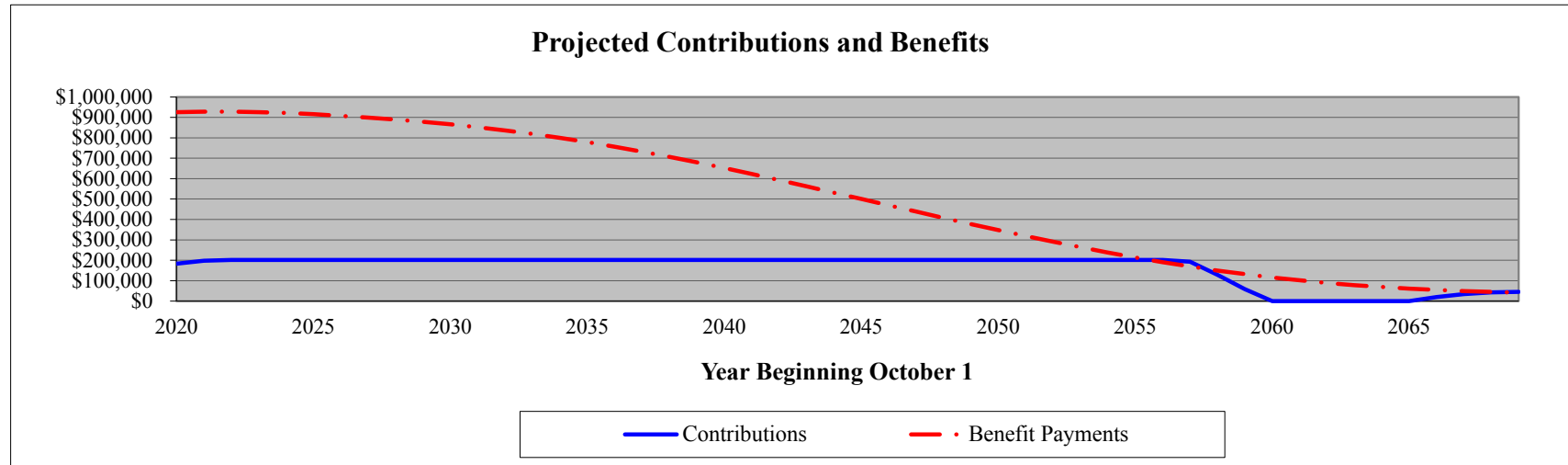
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b>Year Beginning <u>July 1</u></b>	<b>Value of Assessed Property</b>	<b>MVA Balance <u>July 1</u></b>	<b>Millage Rate</b>	<b><u>Contributions</u></b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance <u>June 30</u></b>	<b>Year Ending <u>June 30</u></b>
2020	\$216,824,192	\$8,635,040	0.00093	\$183,519	\$925,112	\$516,866	(\$224,727)	\$8,410,313	2021
2021	216,824,192	8,410,313	0.00093	197,310	927,543	503,171	(227,062)	8,183,251	2022
2022	216,824,192	8,183,251	0.00093	201,646	928,391	489,087	(237,658)	7,945,592	2023
2023	216,824,192	7,945,592	0.00093	201,646	925,754	474,314	(249,794)	7,695,798	2024
2024	216,824,192	7,695,798	0.00093	201,646	922,192	458,812	(261,734)	7,434,064	2025
2025	216,824,192	7,434,064	0.00093	201,646	915,590	442,656	(271,288)	7,162,777	2026
2026	216,824,192	7,162,777	0.00093	201,646	908,070	425,932	(280,492)	6,882,284	2027
2027	216,824,192	6,882,284	0.00093	201,646	899,515	408,665	(289,204)	6,593,080	2028
2028	216,824,192	6,593,080	0.00093	201,646	889,790	390,889	(297,255)	6,295,825	2029
2029	216,824,192	6,295,825	0.00093	201,646	878,758	372,650	(304,462)	5,991,363	2030
2034	216,824,192	4,724,742	0.00093	201,646	800,107	276,878	(321,583)	4,403,160	2035
2039	216,824,192	3,149,653	0.00093	201,646	679,660	182,142	(295,872)	2,853,782	2040
2044	216,824,192	1,791,287	0.00093	201,646	531,421	101,806	(227,969)	1,563,318	2045
2049	216,824,192	839,581	0.00093	201,646	377,576	47,059	(128,871)	710,711	2050
2054	216,824,192	426,238	0.00093	201,646	238,082	25,519	(10,917)	415,321	2055
2059	216,824,192	531,336	0.00061	58,476	132,065	30,944	(42,645)	488,692	2060
2064	216,824,192	182,766	0.00032	0	68,950	9,301	(59,649)	123,117	2065
2069	216,824,192	22,598	0.00019	45,842	40,985	1,562	6,419	29,017	2070



**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)**

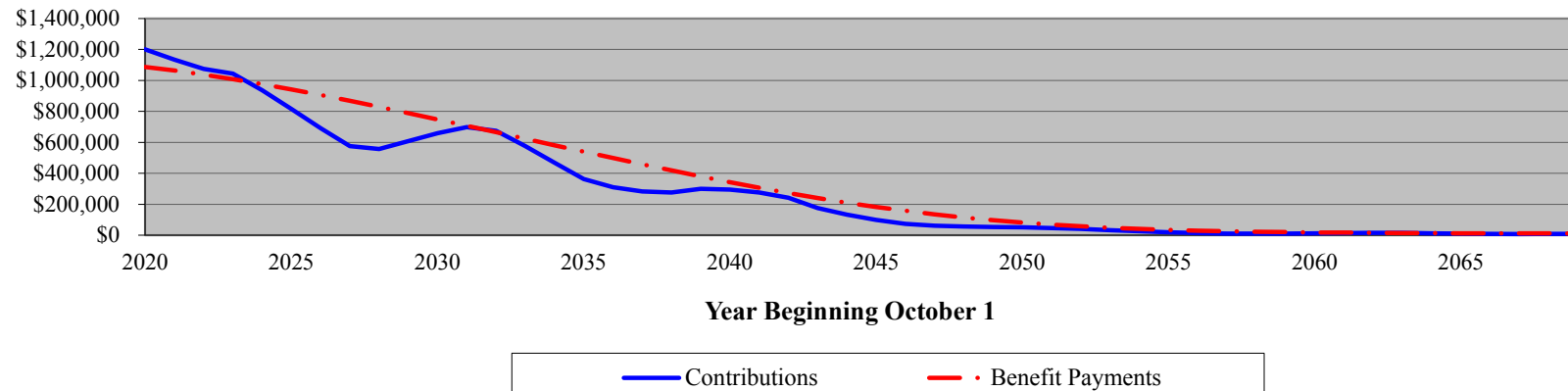
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$207,384,299	\$1,018,692	0.00535	\$1,200,668	\$1,086,914	\$67,169	\$180,923	\$1,199,615	2021
2021	207,384,299	1,199,615	0.00513	1,133,874	1,063,921	77,129	147,082	1,346,697	2022
2022	207,384,299	1,346,697	0.00500	1,075,317	1,037,308	85,338	123,347	1,470,044	2023
2023	207,384,299	1,470,044	0.00486	1,043,961	1,007,686	92,994	129,269	1,599,313	2024
2024	207,384,299	1,599,313	0.00470	937,124	975,580	98,774	60,318	1,659,631	2025
2025	207,384,299	1,659,631	0.00454	815,865	941,431	99,862	(25,704)	1,633,927	2026
2026	207,384,299	1,633,927	0.00437	691,188	905,626	95,521	(118,917)	1,515,010	2027
2027	207,384,299	1,515,010	0.00419	574,981	868,479	85,655	(207,843)	1,307,167	2028
2028	207,384,299	1,307,167	0.00400	556,407	829,325	73,299	(199,619)	1,107,548	2029
2029	207,384,299	1,107,548	0.00381	607,530	789,121	63,633	(117,958)	989,590	2030
2034	207,384,299	1,100,773	0.00280	468,182	581,517	65,310	(48,025)	1,052,748	2035
2039	207,384,299	562,592	0.00183	300,328	379,933	32,712	(46,893)	515,700	2040
2044	207,384,299	460,619	0.00101	132,841	210,210	26,408	(50,961)	409,658	2045
2049	207,384,299	179,373	0.00047	53,135	96,933	9,863	(33,935)	145,438	2050
2054	207,384,299	87,391	0.00019	25,034	40,254	4,994	(10,226)	77,165	2055
2059	207,384,299	32,826	0.00010	10,587	19,737	1,770	(7,380)	25,445	2060
2064	207,384,299	23,620	0.00006	12,128	13,350	1,439	217	23,836	2065
2069	207,384,299	14,154	0.00005	8,956	10,664	832	(876)	13,277	2070



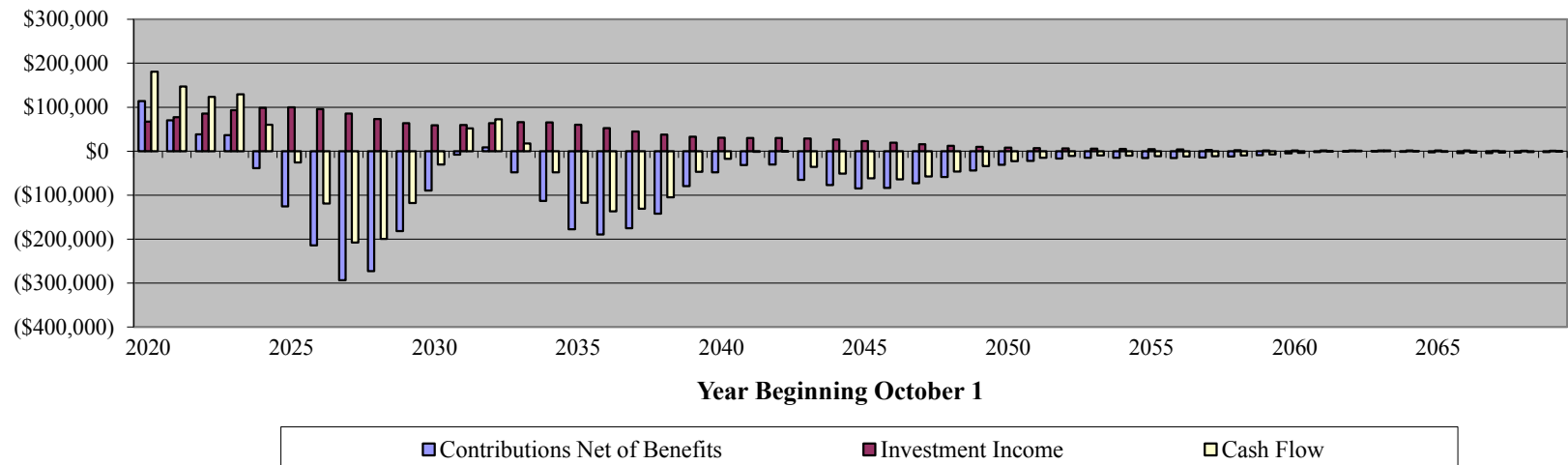
Mississippi Municipal Retirement Systems  
City of Columbus

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**

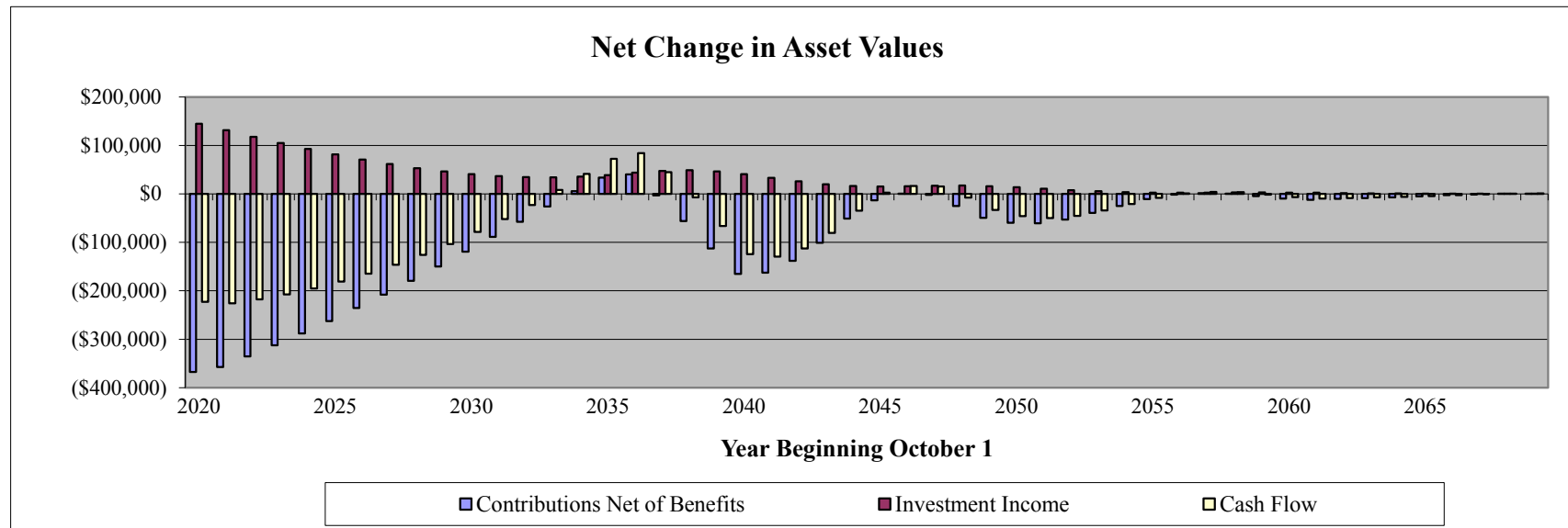
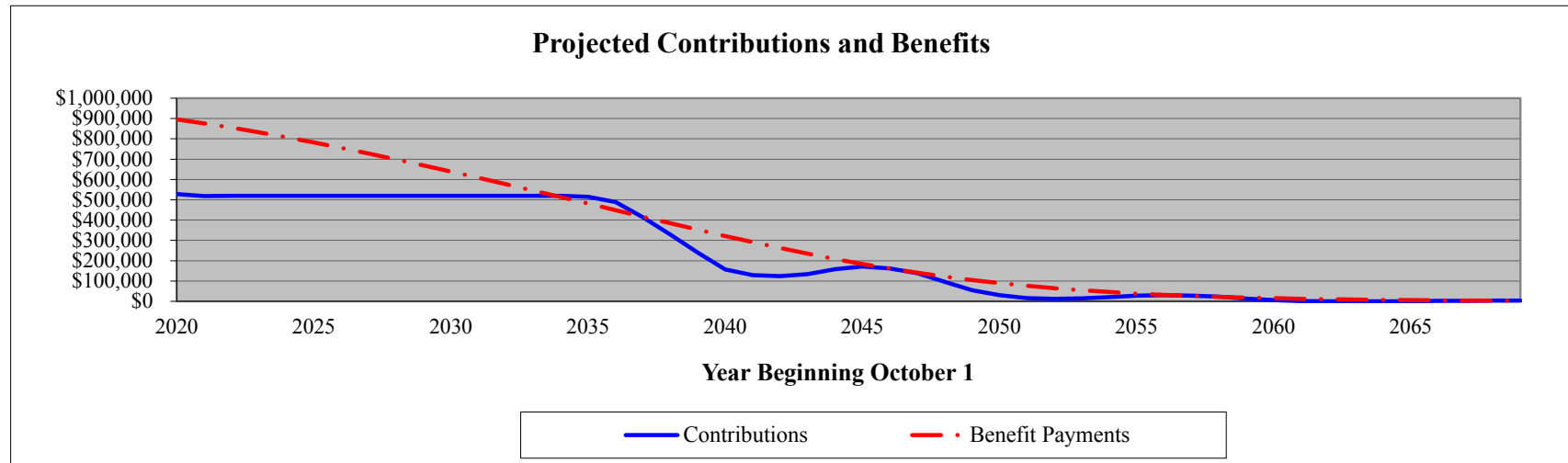
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$201,216,099	\$2,501,313	0.00258	\$528,027	\$895,674	\$145,017	(\$222,630)	\$2,278,682	2021
2021	201,216,099	2,278,682	0.00258	518,634	875,965	131,420	(225,911)	2,052,771	2022
2022	201,216,099	2,052,771	0.00258	519,138	854,595	117,974	(217,483)	1,835,288	2023
2023	201,216,099	1,835,288	0.00258	519,138	831,664	105,087	(207,439)	1,627,849	2024
2024	201,216,099	1,627,849	0.00258	519,138	807,296	92,872	(195,286)	1,432,563	2025
2025	201,216,099	1,432,563	0.00258	519,138	781,636	81,456	(181,042)	1,251,521	2026
2026	201,216,099	1,251,521	0.00258	519,138	754,829	70,966	(164,725)	1,086,796	2027
2027	201,216,099	1,086,796	0.00258	519,138	727,000	61,527	(146,335)	940,460	2028
2028	201,216,099	940,460	0.00258	519,138	698,271	53,266	(125,867)	814,594	2029
2029	201,216,099	814,594	0.00258	519,138	668,769	46,307	(103,324)	711,269	2030
2034	201,216,099	565,472	0.00255	519,138	513,300	35,522	41,360	606,832	2035
2039	201,216,099	800,706	0.00175	240,198	352,760	46,580	(65,982)	734,724	2040
2044	201,216,099	288,137	0.00104	157,699	208,561	16,443	(34,419)	253,718	2045
2049	201,216,099	279,785	0.00052	55,285	104,548	15,970	(33,293)	246,493	2050
2054	201,216,099	71,484	0.00023	20,912	45,684	3,705	(21,067)	50,417	2055
2059	201,216,099	51,343	0.00009	13,931	18,463	3,069	(1,463)	49,880	2060
2064	201,216,099	17,508	0.00003	0	6,994	879	(6,115)	11,393	2065
2069	201,216,099	4,188	0.00001	3,012	2,462	279	829	5,016	2070



**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)**

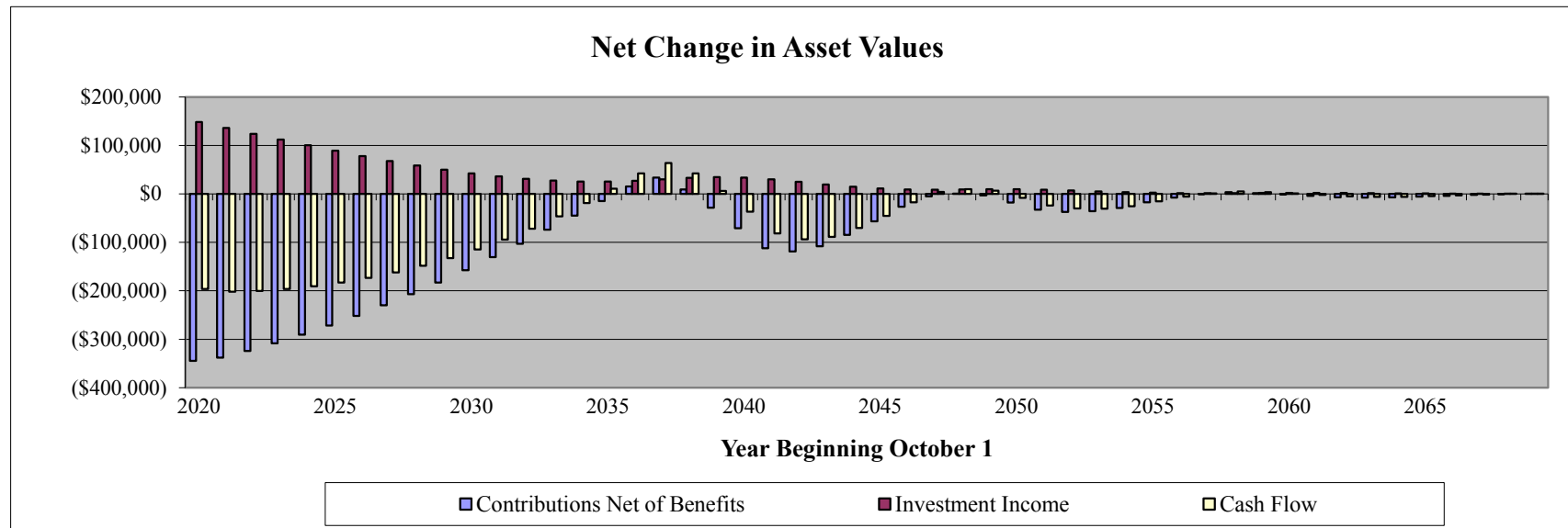
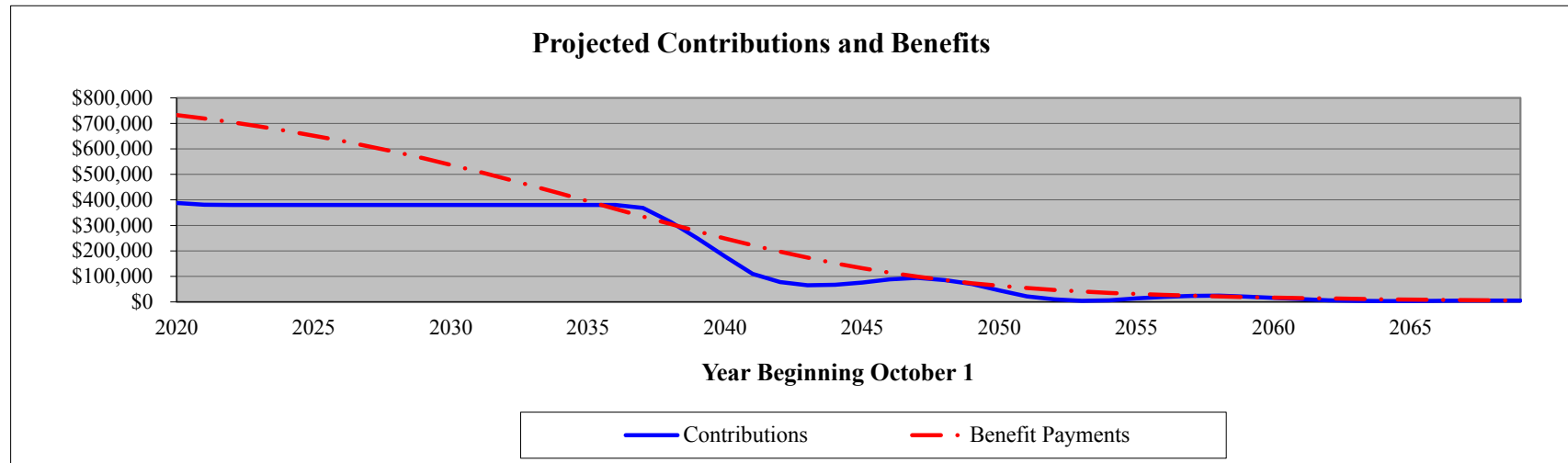
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$115,862,323	\$2,542,339	0.00328	\$387,973	\$732,651	\$148,288	(\$196,390)	\$2,345,949	2021
2021	115,862,323	2,345,949	0.00328	381,187	719,183	136,220	(201,776)	2,144,173	2022
2022	115,862,323	2,144,173	0.00328	380,028	704,370	124,029	(200,313)	1,943,860	2023
2023	115,862,323	1,943,860	0.00328	380,028	688,196	112,007	(196,161)	1,747,699	2024
2024	115,862,323	1,747,699	0.00328	380,028	670,661	100,287	(190,346)	1,557,353	2025
2025	115,862,323	1,557,353	0.00328	380,028	651,777	88,971	(182,778)	1,374,574	2026
2026	115,862,323	1,374,574	0.00328	380,028	631,546	78,170	(173,348)	1,201,227	2027
2027	115,862,323	1,201,227	0.00328	380,028	609,964	68,000	(161,936)	1,039,291	2028
2028	115,862,323	1,039,291	0.00328	380,028	587,037	58,585	(148,424)	890,866	2029
2029	115,862,323	890,866	0.00328	380,028	562,792	50,054	(132,710)	758,156	2030
2034	115,862,323	431,036	0.00328	380,028	424,647	25,567	(19,052)	411,983	2035
2039	115,862,323	570,983	0.00239	247,893	276,377	34,810	6,326	577,310	2040
2044	115,862,323	276,592	0.00131	66,996	151,745	14,679	(70,070)	206,523	2045
2049	115,862,323	157,712	0.00063	70,164	73,180	9,764	6,748	164,460	2050
2054	115,862,323	71,907	0.00031	6,333	35,401	3,600	(25,468)	46,439	2055
2059	115,862,323	31,901	0.00017	20,673	19,236	2,038	3,475	35,376	2060
2064	115,862,323	23,350	0.00009	3,318	10,493	1,239	(5,936)	17,413	2065
2069	115,862,323	8,358	0.00004	4,990	4,833	527	684	9,042	2070





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**

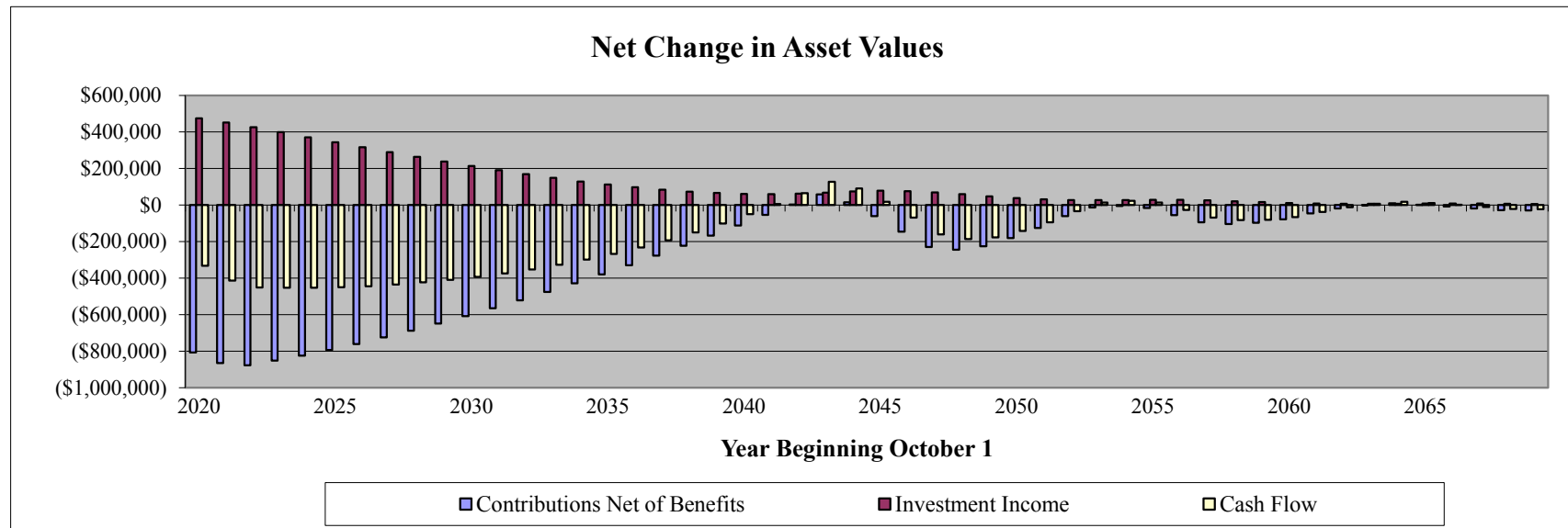
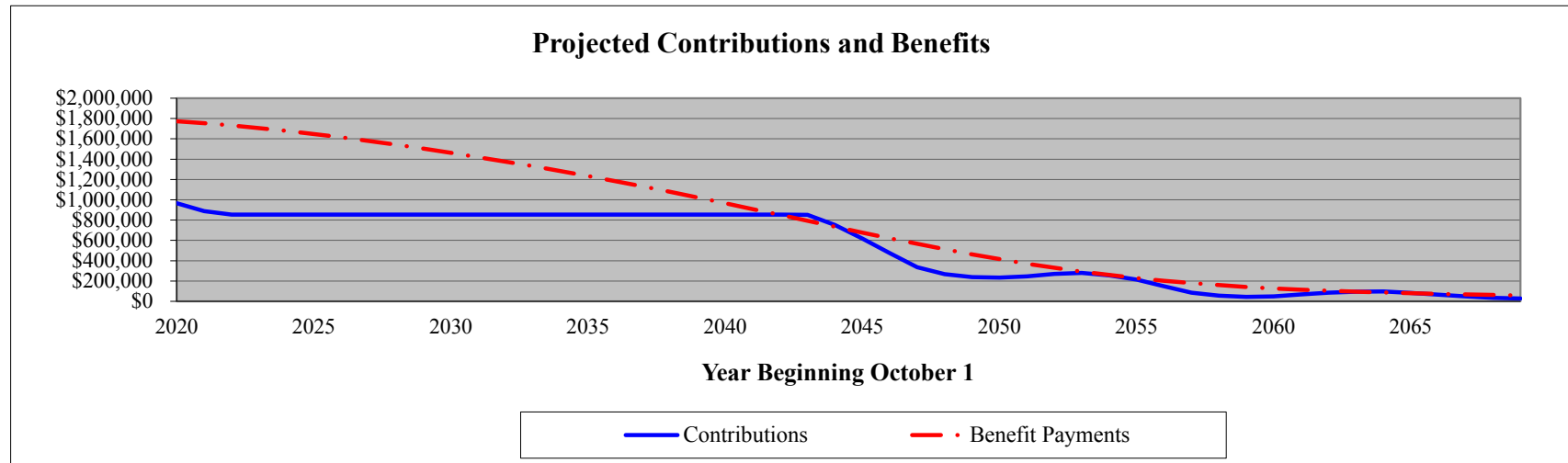
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b>Year Beginning <u>July 1</u></b>	<b>Value of Assessed Property</b>	<b>MVA Balance <u>July 1</u></b>	<b>Millage Rate</b>	<b><u>Contributions</u></b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance <u>June 30</u></b>	<b>Year Ending <u>June 30</u></b>
2020	\$805,811,344	\$7,993,053	0.00106	\$966,175	\$1,773,101	\$474,731	(\$332,195)	\$7,660,857	2021
2021	805,811,344	7,660,857	0.00106	888,407	1,753,960	452,165	(413,388)	7,247,469	2022
2022	805,811,344	7,247,469	0.00106	854,160	1,731,307	425,971	(451,176)	6,796,293	2023
2023	805,811,344	6,796,293	0.00106	854,160	1,705,719	398,560	(452,999)	6,343,294	2024
2024	805,811,344	6,343,294	0.00106	854,160	1,677,979	371,102	(452,717)	5,890,577	2025
2025	805,811,344	5,890,577	0.00106	854,160	1,648,072	343,727	(450,185)	5,440,392	2026
2026	805,811,344	5,440,392	0.00106	854,160	1,614,876	316,612	(444,104)	4,996,288	2027
2027	805,811,344	4,996,288	0.00106	854,160	1,578,883	289,964	(434,759)	4,561,530	2028
2028	805,811,344	4,561,530	0.00106	854,160	1,541,385	263,945	(423,280)	4,138,250	2029
2029	805,811,344	4,138,250	0.00106	854,160	1,502,349	238,692	(409,497)	3,728,753	2030
2034	805,811,344	2,281,486	0.00106	854,160	1,282,702	129,404	(299,138)	1,982,348	2035
2039	805,811,344	1,141,277	0.00106	854,160	1,022,036	66,163	(101,713)	1,039,564	2040
2044	805,811,344	1,187,983	0.00091	750,598	734,800	74,735	90,533	1,278,516	2045
2049	805,811,344	881,726	0.00057	237,452	462,676	48,176	(177,048)	704,678	2050
2054	805,811,344	449,079	0.00032	254,511	259,262	27,921	23,170	472,249	2055
2059	805,811,344	307,624	0.00018	44,656	142,182	16,225	(81,301)	226,323	2060
2064	805,811,344	117,716	0.00011	97,280	86,986	7,674	17,968	135,683	2065
2069	805,811,344	116,570	0.00007	27,776	57,100	6,383	(22,941)	93,629	2070



**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**

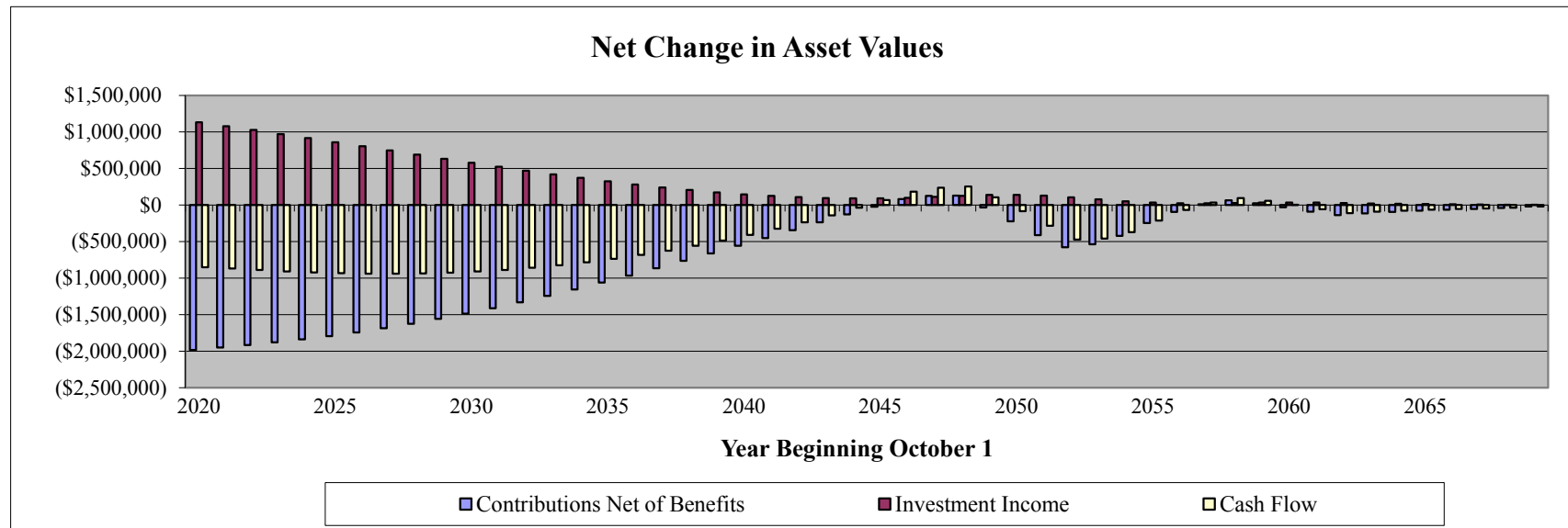
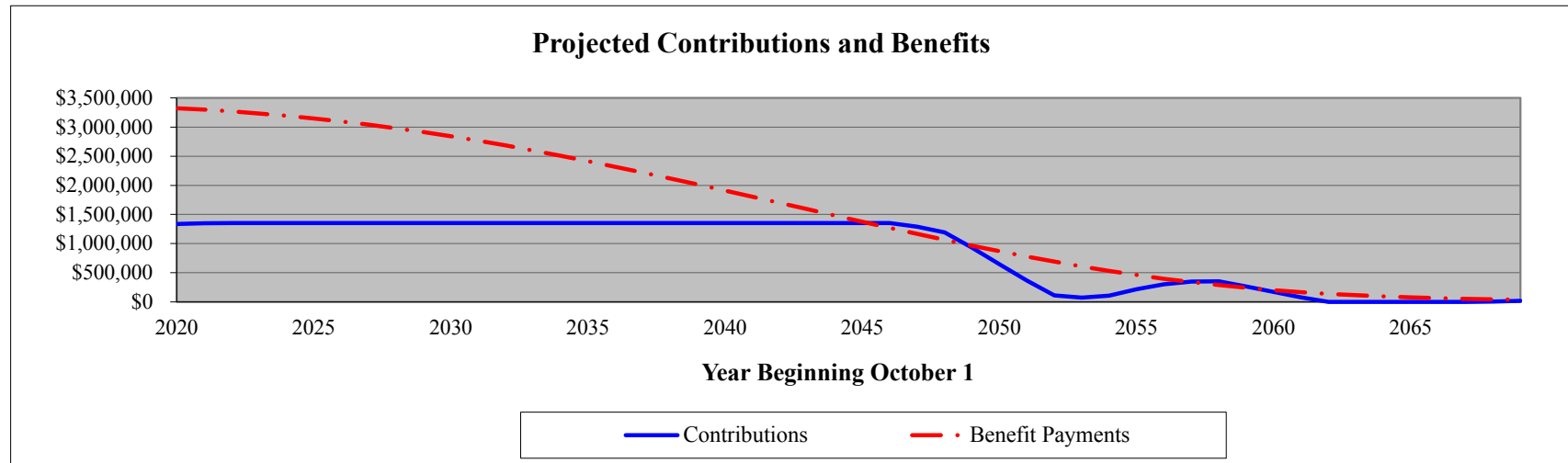
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b>Year Beginning <u>July 1</u></b>	<b>Value of Assessed Property</b>	<b>MVA Balance <u>July 1</u></b>	<b>Millage Rate</b>	<b><u>Contributions</u></b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance <u>June 30</u></b>	<b>Year Ending <u>June 30</u></b>
2020	\$473,044,936	\$19,093,969	0.00286	\$1,337,426	\$3,321,784	\$1,132,302	(\$852,056)	\$18,241,913	2021
2021	473,044,936	18,241,913	0.00286	1,349,361	3,297,807	1,080,153	(868,293)	17,373,620	2022
2022	473,044,936	17,373,620	0.00286	1,352,909	3,268,128	1,026,908	(888,311)	16,485,309	2023
2023	473,044,936	16,485,309	0.00286	1,352,909	3,232,364	972,489	(906,966)	15,578,343	2024
2024	473,044,936	15,578,343	0.00286	1,352,909	3,192,174	917,040	(922,225)	14,656,119	2025
2025	473,044,936	14,656,119	0.00286	1,352,909	3,146,729	860,800	(933,020)	13,723,098	2026
2026	473,044,936	13,723,098	0.00286	1,352,909	3,096,032	804,047	(939,076)	12,784,023	2027
2027	473,044,936	12,784,023	0.00286	1,352,909	3,039,827	747,084	(939,834)	11,844,189	2028
2028	473,044,936	11,844,189	0.00286	1,352,909	2,978,077	690,245	(934,923)	10,909,265	2029
2029	473,044,936	10,909,265	0.00286	1,352,909	2,911,555	633,860	(924,786)	9,984,480	2030
2034	473,044,936	6,505,717	0.00286	1,352,909	2,507,286	371,080	(783,297)	5,722,420	2035
2039	473,044,936	3,121,350	0.00286	1,352,909	2,014,358	174,727	(486,722)	2,634,628	2040
2044	473,044,936	1,524,980	0.00286	1,352,909	1,482,157	91,333	(37,915)	1,487,064	2045
2049	473,044,936	2,232,446	0.00204	930,924	964,798	138,485	104,611	2,337,057	2050
2054	473,044,936	1,041,747	0.00112	108,796	532,129	52,080	(371,253)	670,493	2055
2059	473,044,936	521,394	0.00051	265,714	242,020	33,316	57,010	578,404	2060
2064	473,044,936	325,294	0.00020	0	93,976	17,439	(76,537)	248,757	2065
2069	473,044,936	47,829	0.00008	17,107	37,772	2,353	(18,312)	29,518	2070



**Mississippi Municipal Retirement Systems  
City of Hattiesburg**

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



**Mississippi Municipal Retirement Systems  
City of Jackson**



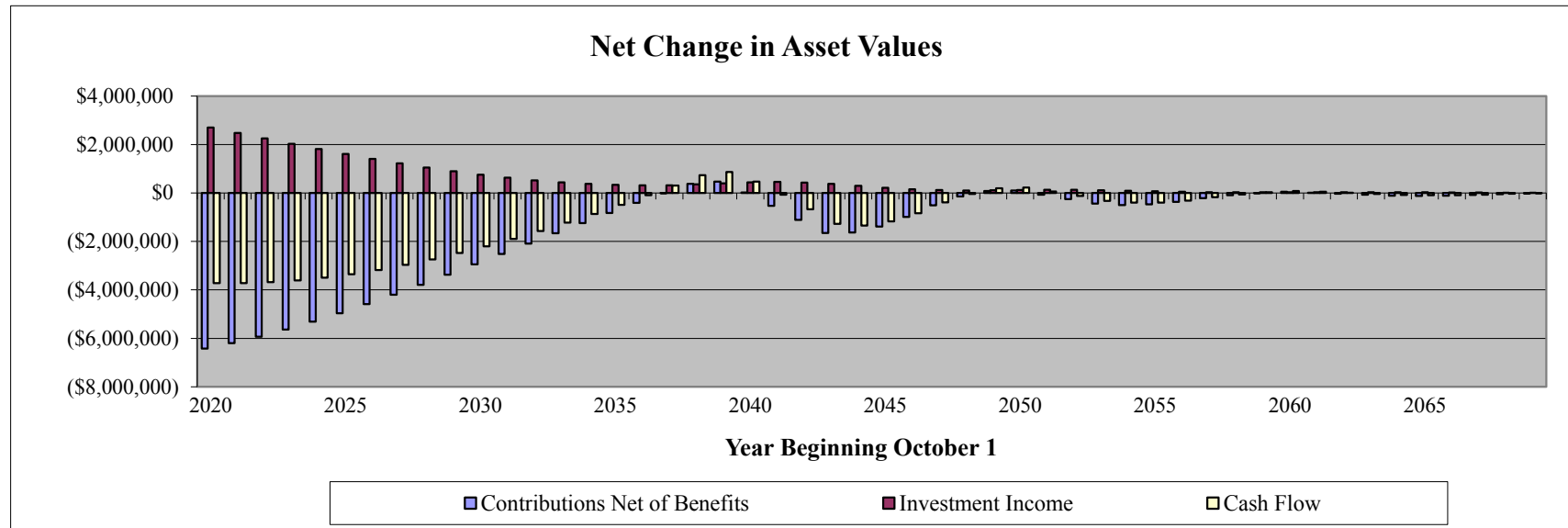
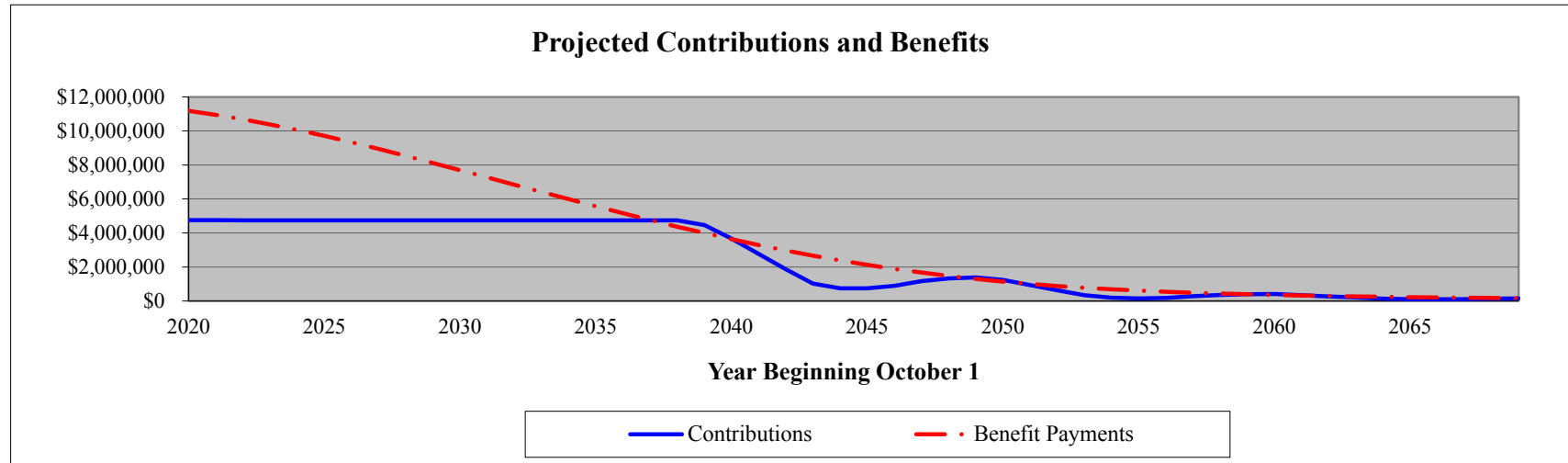
**Cash Flow Projection**  
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments**

<b>Year Beginning July 1</b>	<b>Value of Assessed Property</b>	<b>MVA Balance July 1</b>	<b>Millage Rate</b>	<b>Contributions</b>	<b>Benefit Payments</b>	<b>Investment Income</b>	<b>Cash Flow</b>	<b>MVA Balance June 30</b>	<b>Year Ending June 30</b>
2020	\$1,252,499,510	\$46,418,510	0.00379	\$4,756,361	\$11,182,191	\$2,703,393	(\$3,722,437)	\$42,696,073	2021
2021	1,252,499,510	42,696,073	0.00379	4,756,367	10,950,946	2,477,858	(3,716,721)	38,979,352	2022
2022	1,252,499,510	38,979,352	0.00379	4,746,973	10,683,713	2,253,498	(3,683,242)	35,296,110	2023
2023	1,252,499,510	35,296,110	0.00379	4,746,973	10,385,547	2,032,472	(3,606,102)	31,690,008	2024
2024	1,252,499,510	31,690,008	0.00379	4,746,973	10,058,793	1,817,147	(3,494,673)	28,195,335	2025
2025	1,252,499,510	28,195,335	0.00379	4,746,973	9,706,883	1,609,560	(3,350,350)	24,844,986	2026
2026	1,252,499,510	24,844,986	0.00379	4,746,973	9,333,579	1,411,652	(3,174,954)	21,670,032	2027
2027	1,252,499,510	21,670,032	0.00379	4,746,973	8,942,364	1,225,258	(2,970,133)	18,699,899	2028
2028	1,252,499,510	18,699,899	0.00379	4,746,973	8,536,779	1,052,107	(2,737,699)	15,962,200	2029
2029	1,252,499,510	15,962,200	0.00379	4,746,973	8,120,354	893,817	(2,479,564)	13,482,637	2030
2034	1,252,499,510	6,596,859	0.00379	4,746,973	5,985,978	374,172	(864,833)	5,732,026	2035
2039	1,252,499,510	6,188,686	0.00319	4,464,167	3,995,532	401,216	869,851	7,058,538	2040
2044	1,252,499,510	5,503,831	0.00191	752,950	2,387,033	293,698	(1,340,385)	4,163,446	2045
2049	1,252,499,510	1,737,073	0.00104	1,384,073	1,297,639	111,227	197,661	1,934,734	2050
2054	1,252,499,510	1,776,031	0.00055	191,652	688,472	95,712	(401,108)	1,374,923	2055
2059	1,252,499,510	431,507	0.00032	394,835	394,906	26,967	26,896	458,404	2060
2064	1,252,499,510	559,649	0.00020	137,677	250,080	31,519	(80,884)	478,765	2065
2069	1,252,499,510	198,115	0.00013	147,551	163,568	11,889	(4,128)	193,987	2070



**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)**

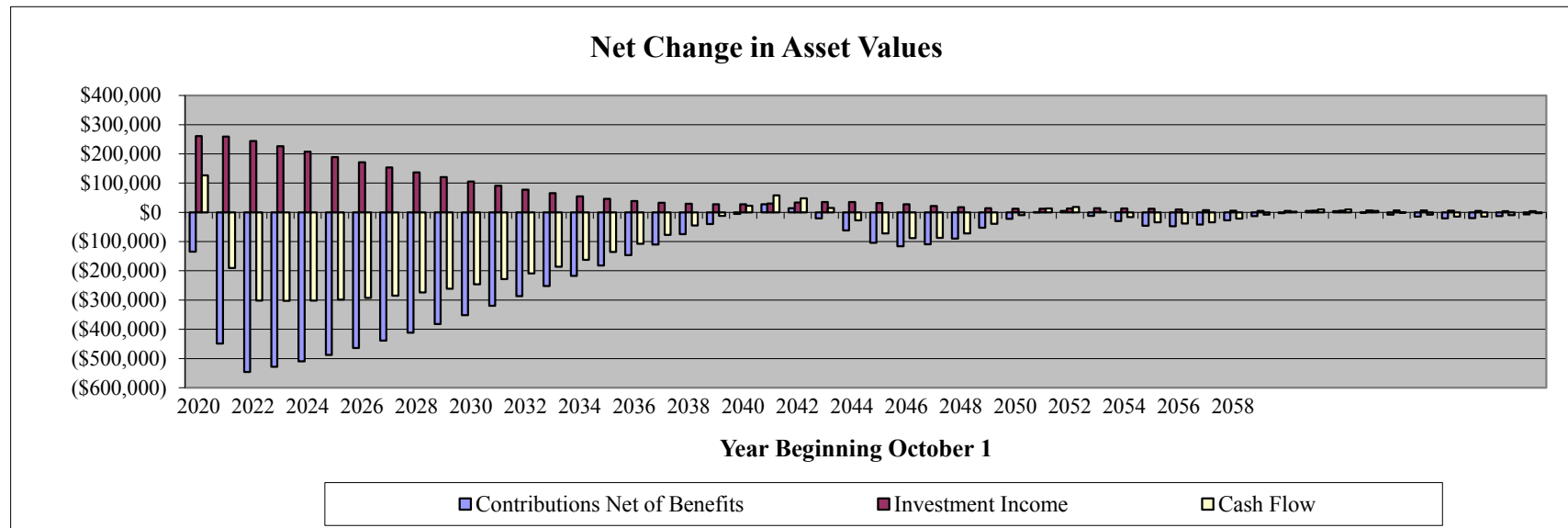
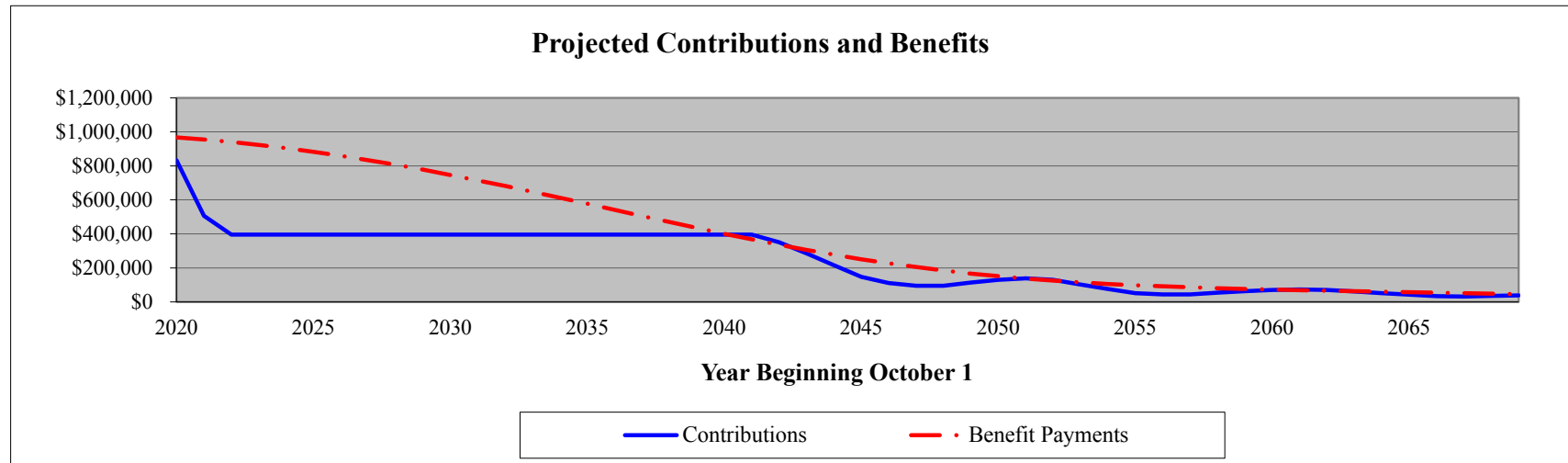
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$188,151,450	\$4,240,461	0.00210	\$833,142	\$967,556	\$260,892	\$126,478	\$4,366,939	2021
2021	188,151,450	4,366,939	0.00210	506,127	955,390	259,107	(190,156)	4,176,783	2022
2022	188,151,450	4,176,783	0.00210	395,118	940,793	244,255	(301,420)	3,875,363	2023
2023	188,151,450	3,875,363	0.00210	395,118	923,808	225,939	(302,751)	3,572,613	2024
2024	188,151,450	3,572,613	0.00210	395,118	904,519	207,611	(301,790)	3,270,823	2025
2025	188,151,450	3,270,823	0.00210	395,118	883,023	189,410	(298,495)	2,972,327	2026
2026	188,151,450	2,972,327	0.00210	395,118	859,434	171,480	(292,836)	2,679,491	2027
2027	188,151,450	2,679,491	0.00210	395,118	833,869	153,965	(284,786)	2,394,705	2028
2028	188,151,450	2,394,705	0.00210	395,118	806,445	137,010	(274,317)	2,120,388	2029
2029	188,151,450	2,120,388	0.00210	395,118	777,303	120,762	(261,423)	1,858,965	2030
2034	188,151,450	989,414	0.00210	395,118	612,306	55,154	(162,034)	827,380	2035
2039	188,151,450	462,195	0.00210	395,118	434,789	27,666	(12,005)	450,190	2040
2044	188,151,450	593,571	0.00147	215,342	277,477	35,186	(26,949)	566,622	2045
2049	188,151,450	246,897	0.00089	114,205	166,869	13,810	(38,854)	208,043	2050
2054	188,151,450	232,296	0.00056	76,218	105,762	13,609	(15,935)	216,361	2055
2059	188,151,450	89,239	0.00041	63,337	76,460	5,174	(7,949)	81,291	2060
2064	188,151,450	109,319	0.00032	51,906	59,524	6,598	(1,020)	108,298	2065
2069	188,151,450	62,236	0.00024	38,609	45,386	3,681	(3,096)	59,140	2070





**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**

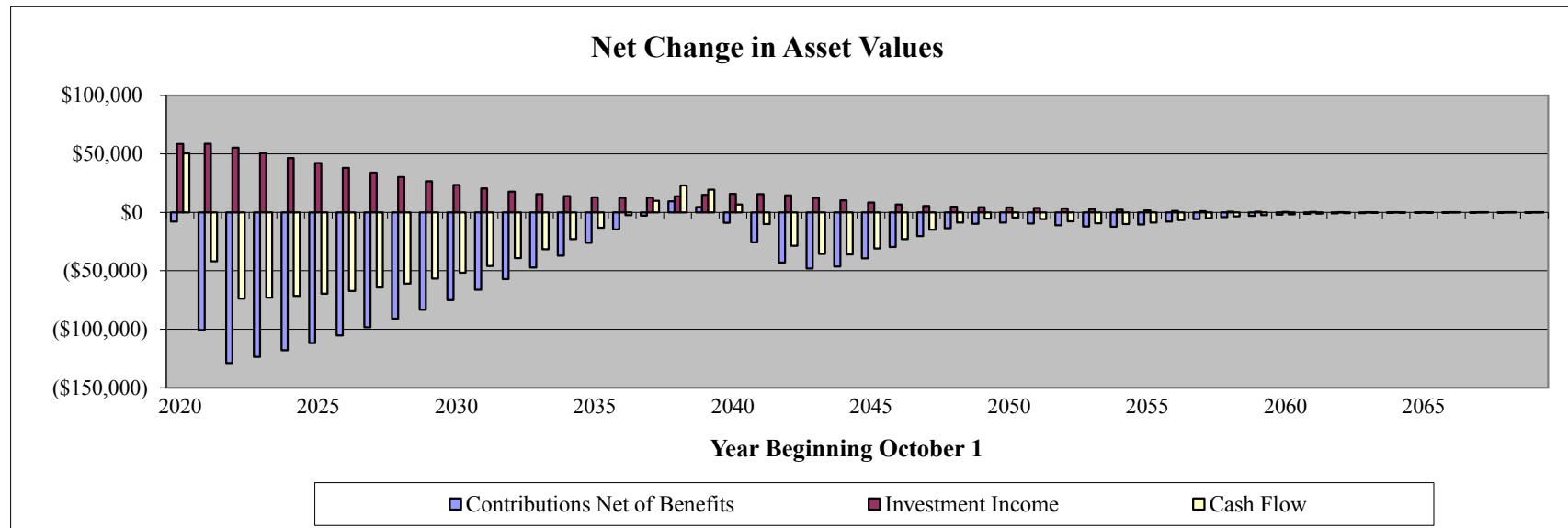
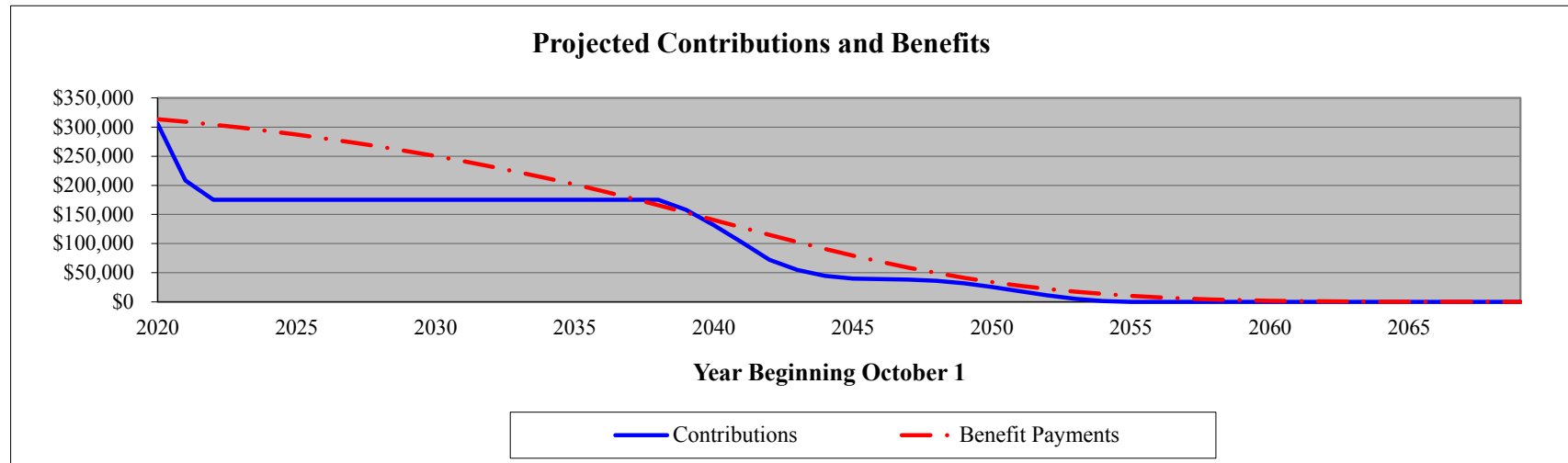
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$106,190,926	\$938,120	0.00165	\$305,533	\$313,394	\$58,391	\$50,530	\$988,650	2021
2021	106,190,926	988,650	0.00165	208,400	308,991	58,695	(41,896)	946,754	2022
2022	106,190,926	946,754	0.00165	175,215	304,122	55,205	(73,702)	873,052	2023
2023	106,190,926	873,052	0.00165	175,215	298,810	50,762	(72,833)	800,219	2024
2024	106,190,926	800,219	0.00165	175,215	293,085	46,386	(71,484)	728,735	2025
2025	106,190,926	728,735	0.00165	175,215	286,963	42,107	(69,641)	659,094	2026
2026	106,190,926	659,094	0.00165	175,215	280,443	37,955	(67,273)	591,821	2027
2027	106,190,926	591,821	0.00165	175,215	273,519	33,963	(64,341)	527,479	2028
2028	106,190,926	527,479	0.00165	175,215	266,177	30,168	(60,794)	466,686	2029
2029	106,190,926	466,686	0.00165	175,215	258,399	26,608	(56,576)	410,110	2030
2034	106,190,926	241,835	0.00165	175,215	212,135	13,978	(22,942)	218,893	2035
2039	106,190,926	236,238	0.00144	157,782	153,251	14,904	19,435	255,673	2040
2044	106,190,926	188,454	0.00085	44,521	90,789	10,354	(35,914)	152,540	2045
2049	106,190,926	75,291	0.00039	31,739	41,415	4,408	(5,268)	70,023	2050
2054	106,190,926	42,851	0.00013	1,267	13,587	2,299	(10,021)	32,830	2055
2059	106,190,926	9,407	0.00003	0	2,935	498	(2,437)	6,970	2060
2064	106,190,926	3,159	0.00000	0	369	186	(183)	2,976	2065
2069	106,190,926	3,231	0.00000	0	23	201	178	3,409	2070



**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**

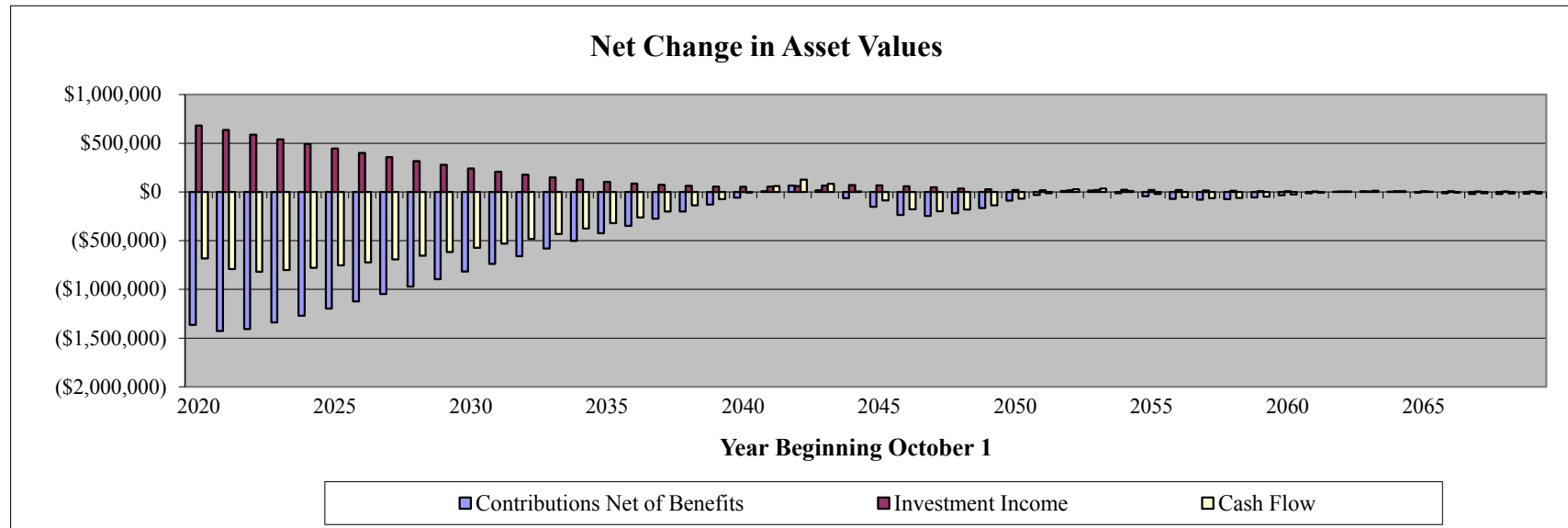
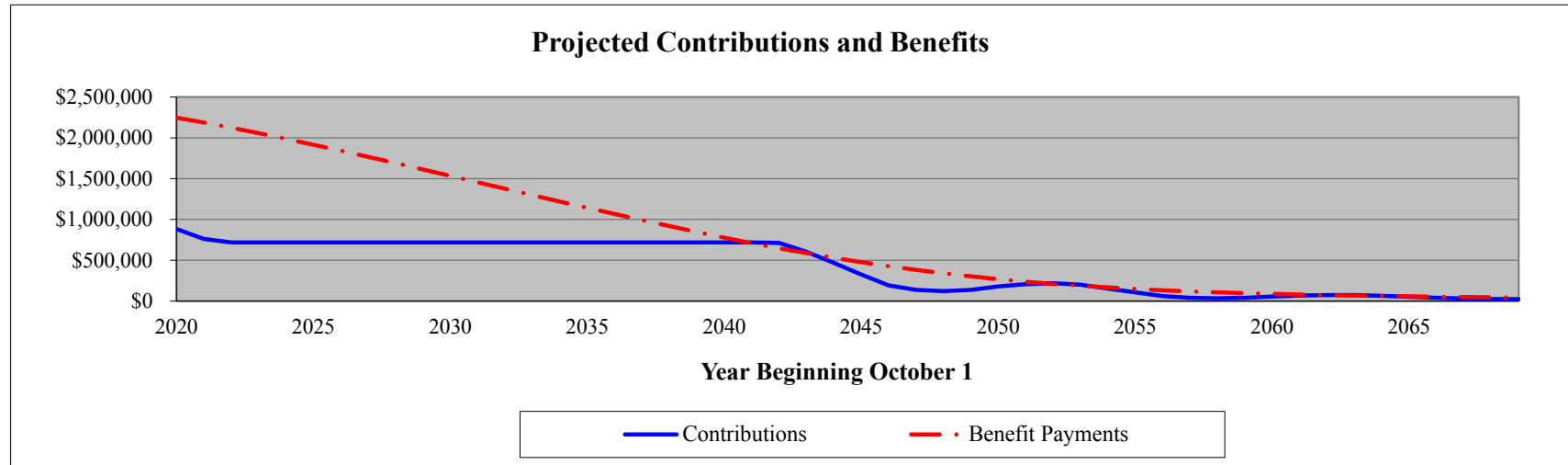
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$355,154,627	\$11,572,690	0.00202	\$882,860	\$2,245,893	\$681,344	(\$681,689)	\$10,891,000	2021
2021	355,154,627	10,891,000	0.00202	760,031	2,186,826	636,776	(790,019)	10,100,981	2022
2022	355,154,627	10,100,981	0.00202	717,412	2,123,358	588,041	(817,905)	9,283,076	2023
2023	355,154,627	9,283,076	0.00202	717,412	2,056,473	538,981	(800,080)	8,482,996	2024
2024	355,154,627	8,482,996	0.00202	717,412	1,986,848	491,119	(778,317)	7,704,679	2025
2025	355,154,627	7,704,679	0.00202	717,412	1,914,958	444,686	(752,860)	6,951,819	2026
2026	355,154,627	6,951,819	0.00202	717,412	1,841,160	399,904	(723,844)	6,227,975	2027
2027	355,154,627	6,227,975	0.00202	717,412	1,765,756	356,984	(691,360)	5,536,615	2028
2028	355,154,627	5,536,615	0.00202	717,412	1,689,025	316,136	(655,477)	4,881,138	2029
2029	355,154,627	4,881,138	0.00202	717,412	1,611,287	277,561	(616,314)	4,264,824	2030
2034	355,154,627	2,251,314	0.00202	717,412	1,219,194	125,264	(376,518)	1,874,796	2035
2039	355,154,627	953,047	0.00202	717,412	846,172	55,603	(73,157)	879,890	2040
2044	355,154,627	1,144,213	0.00149	466,059	530,085	69,543	5,517	1,149,730	2045
2049	355,154,627	507,762	0.00085	138,658	302,451	26,694	(137,099)	370,663	2050
2054	355,154,627	351,628	0.00047	153,916	166,468	21,590	9,038	360,666	2055
2059	355,154,627	162,557	0.00027	40,048	96,607	8,419	(48,140)	114,417	2060
2064	355,154,627	98,881	0.00018	64,323	62,203	6,245	8,365	107,245	2065
2069	355,154,627	73,534	0.00012	23,751	42,485	4,019	(14,715)	58,820	2070



**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**

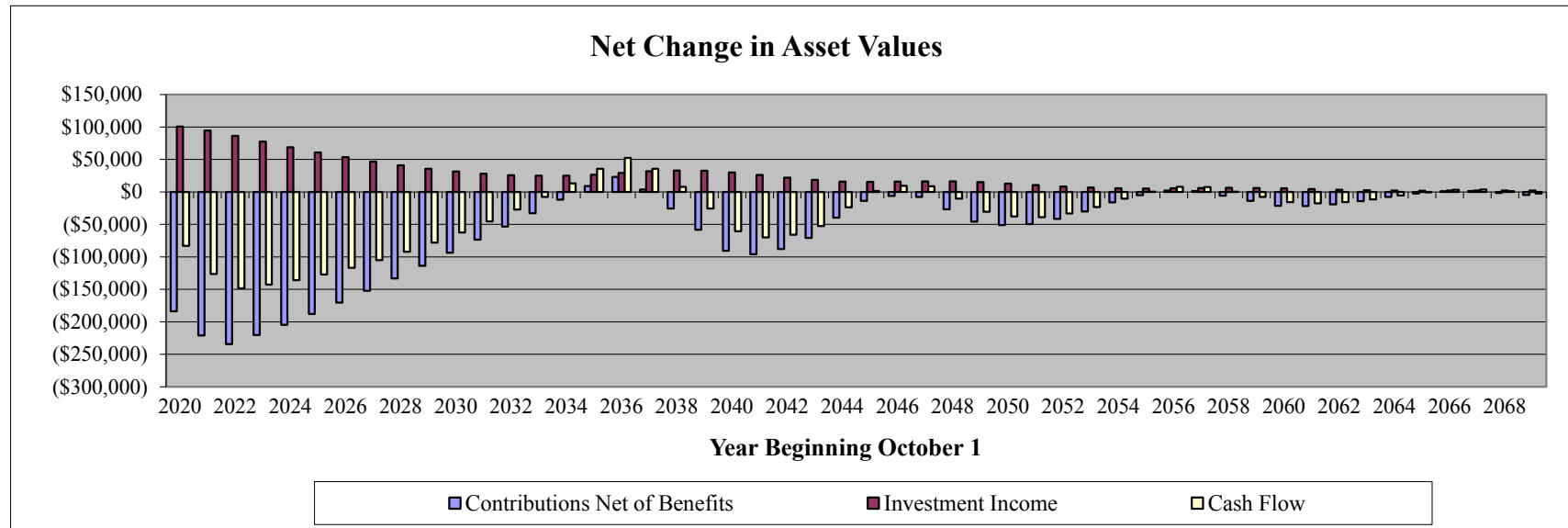
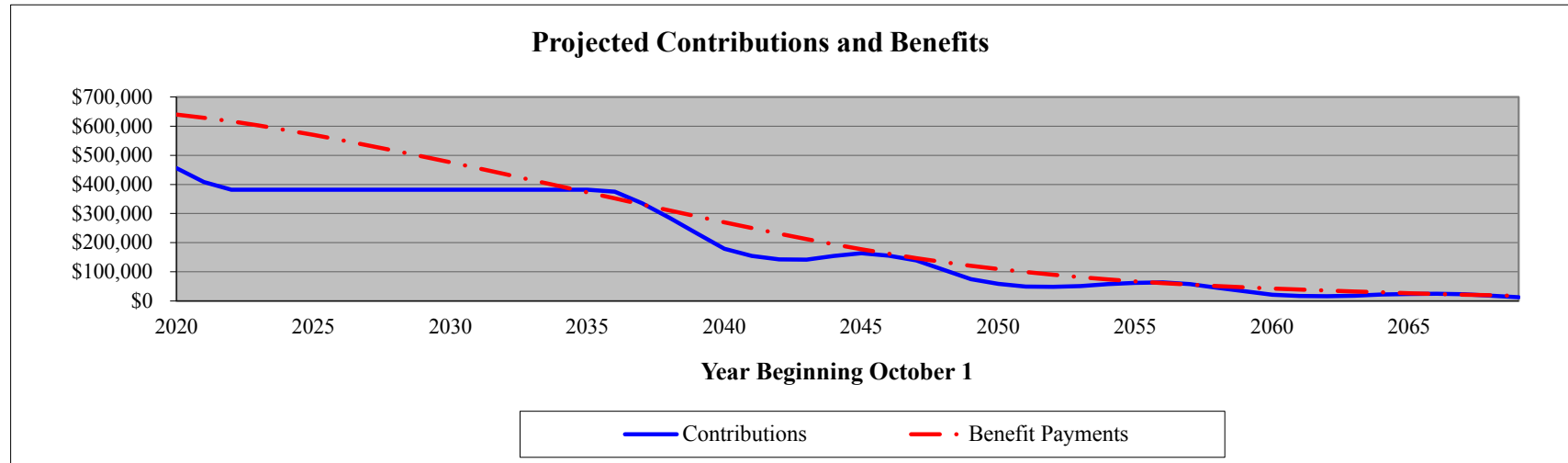
**No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$124,775,441	\$1,703,923	0.00306	\$455,845	\$639,607	\$100,840	(\$82,922)	\$1,621,001	2021
2021	124,775,441	1,621,001	0.00306	408,016	628,832	94,517	(126,299)	1,494,703	2022
2022	124,775,441	1,494,703	0.00306	381,813	616,193	86,206	(148,174)	1,346,529	2023
2023	124,775,441	1,346,529	0.00306	381,813	601,955	77,383	(142,759)	1,203,769	2024
2024	124,775,441	1,203,769	0.00306	381,813	586,388	68,940	(135,635)	1,068,135	2025
2025	124,775,441	1,068,135	0.00306	381,813	569,716	60,975	(126,928)	941,206	2026
2026	124,775,441	941,206	0.00306	381,813	552,127	53,584	(116,730)	824,477	2027
2027	124,775,441	824,477	0.00306	381,813	533,784	46,853	(105,118)	719,359	2028
2028	124,775,441	719,359	0.00306	381,813	514,827	40,866	(92,148)	627,211	2029
2029	124,775,441	627,211	0.00306	381,813	495,373	35,706	(77,854)	549,357	2030
2034	124,775,441	406,934	0.00306	381,813	393,628	25,070	13,255	420,189	2035
2039	124,775,441	551,576	0.00232	231,752	290,073	32,679	(25,642)	525,933	2040
2044	124,775,441	277,175	0.00156	154,996	194,660	16,103	(23,561)	253,614	2045
2049	124,775,441	263,215	0.00097	75,228	120,913	15,045	(30,640)	232,575	2050
2054	124,775,441	99,626	0.00059	58,058	73,949	5,738	(10,153)	89,474	2055
2059	124,775,441	106,192	0.00038	33,104	46,974	6,210	(7,660)	98,532	2060
2064	124,775,441	38,311	0.00024	22,072	29,560	2,164	(5,324)	32,987	2065
2069	124,775,441	40,503	0.00014	12,865	17,414	2,391	(2,158)	38,345	2070



**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)**

<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$228,725,988	\$7,043,788	0.00157	\$394,870	\$1,262,814	\$413,525	(\$454,419)	\$6,589,369	2021
2021	228,725,988	6,589,369	0.00157	339,658	1,233,966	384,312	(509,996)	6,079,373	2022
2022	228,725,988	6,079,373	0.00157	359,100	1,202,146	354,015	(489,031)	5,590,342	2023
2023	228,725,988	5,590,342	0.00157	359,100	1,167,475	324,518	(483,857)	5,106,486	2024
2024	228,725,988	5,106,486	0.00157	359,100	1,129,481	295,446	(474,935)	4,631,551	2025
2025	228,725,988	4,631,551	0.00157	359,100	1,088,953	267,010	(462,843)	4,168,708	2026
2026	228,725,988	4,168,708	0.00157	359,100	1,046,296	239,395	(447,801)	3,720,907	2027
2027	228,725,988	3,720,907	0.00157	359,100	1,001,782	212,777	(429,905)	3,291,001	2028
2028	228,725,988	3,291,001	0.00157	359,100	955,657	187,328	(409,229)	2,881,773	2029
2029	228,725,988	2,881,773	0.00157	359,100	908,127	163,214	(385,813)	2,495,960	2030
2034	228,725,988	1,239,961	0.00157	359,100	657,573	68,312	(230,161)	1,009,801	2035
2039	228,725,988	478,327	0.00157	359,100	417,309	28,104	(30,105)	448,222	2040
2044	228,725,988	576,693	0.00101	163,821	232,042	33,944	(34,277)	542,416	2045
2049	228,725,988	179,721	0.00053	67,815	121,261	9,588	(43,858)	135,862	2050
2054	228,725,988	152,949	0.00029	51,341	66,897	9,081	(6,475)	146,474	2055
2059	228,725,988	56,395	0.00017	25,405	39,677	3,085	(11,187)	45,208	2060
2064	228,725,988	52,867	0.00010	16,419	21,818	3,138	(2,261)	50,606	2065
2069	228,725,988	18,306	0.00004	3,447	9,902	945	(5,510)	12,797	2070

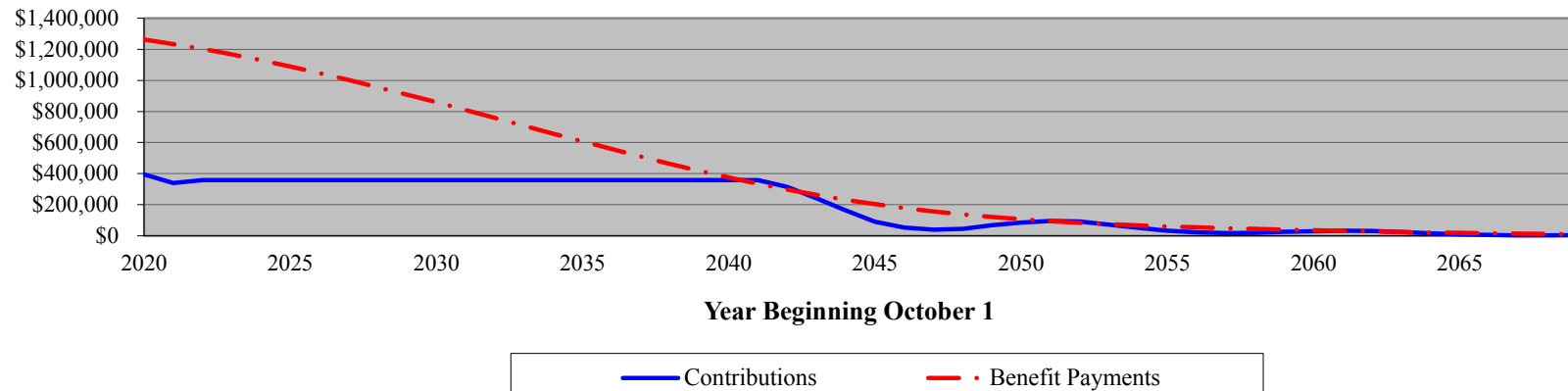




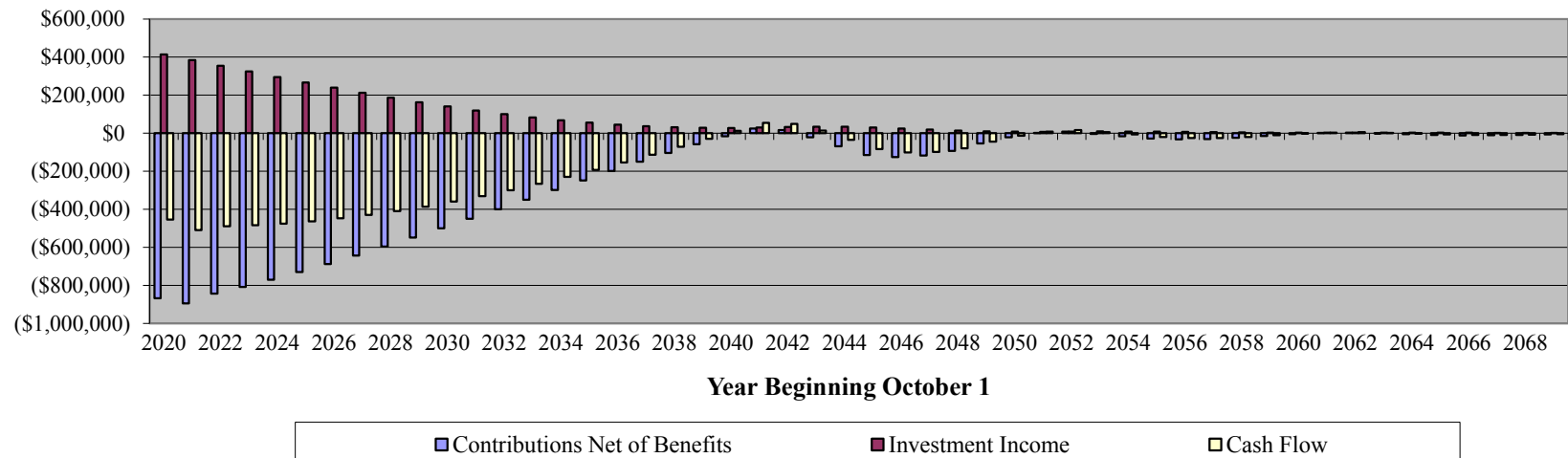
Mississippi Municipal Retirement Systems  
City of Pascagoula

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 6.25% on Investments)**

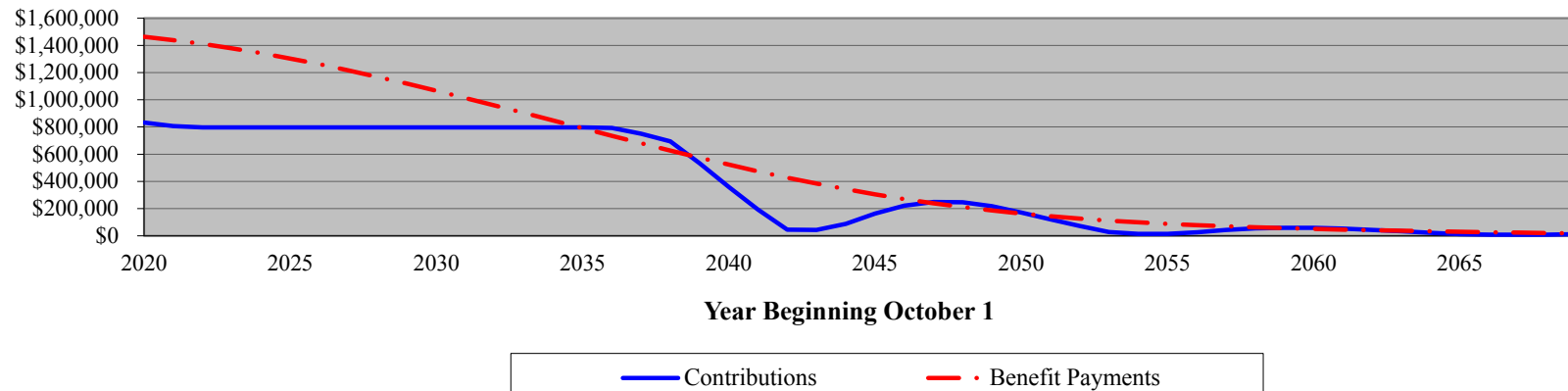
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$520,896,796	\$4,724,126	0.00153	\$832,636	\$1,463,324	\$275,848	(\$354,840)	\$4,369,287	2021
2021	520,896,796	4,369,287	0.00153	807,390	1,439,063	253,640	(378,033)	3,991,254	2022
2022	520,896,796	3,991,254	0.00153	796,972	1,410,850	230,560	(383,318)	3,607,936	2023
2023	520,896,796	3,607,936	0.00153	796,972	1,378,769	207,590	(374,207)	3,233,729	2024
2024	520,896,796	3,233,729	0.00153	796,972	1,342,979	185,304	(360,703)	2,873,026	2025
2025	520,896,796	2,873,026	0.00153	796,972	1,303,708	163,969	(342,767)	2,530,259	2026
2026	520,896,796	2,530,259	0.00153	796,972	1,261,238	143,853	(320,413)	2,209,846	2027
2027	520,896,796	2,209,846	0.00153	796,972	1,215,885	125,223	(293,690)	1,916,156	2028
2028	520,896,796	1,916,156	0.00153	796,972	1,167,986	108,341	(262,673)	1,653,482	2029
2029	520,896,796	1,653,482	0.00153	796,972	1,117,912	93,465	(227,475)	1,426,007	2030
2034	520,896,796	947,296	0.00153	796,972	847,515	57,650	7,107	954,403	2035
2039	520,896,796	1,434,572	0.00110	532,910	574,231	88,389	47,068	1,481,640	2040
2044	520,896,796	588,966	0.00066	88,438	343,291	28,967	(225,886)	363,080	2045
2049	520,896,796	277,362	0.00036	218,147	185,776	18,331	50,702	328,063	2050
2054	520,896,796	257,591	0.00019	13,899	99,026	13,480	(71,647)	185,944	2055
2059	520,896,796	48,405	0.00011	59,293	56,661	3,106	5,738	54,143	2060
2064	520,896,796	82,296	0.00006	22,529	33,600	4,803	(6,268)	76,028	2065
2069	520,896,796	25,889	0.00004	12,113	18,261	1,429	(4,719)	21,170	2070



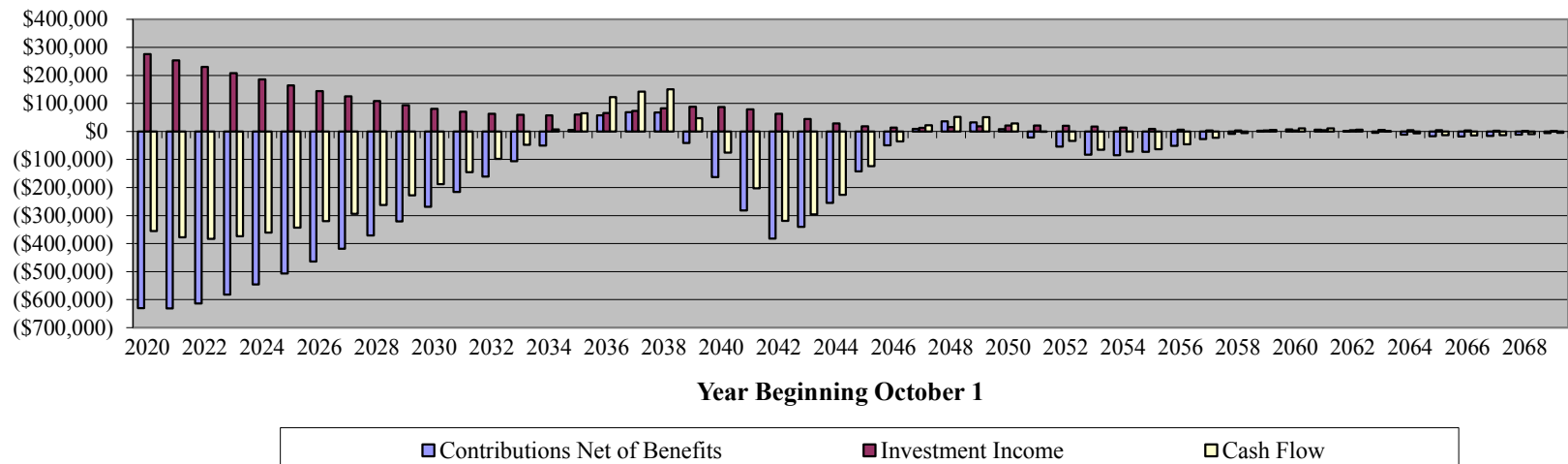
Mississippi Municipal Retirement Systems  
City of Tupelo

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 6.25% on Investments)**

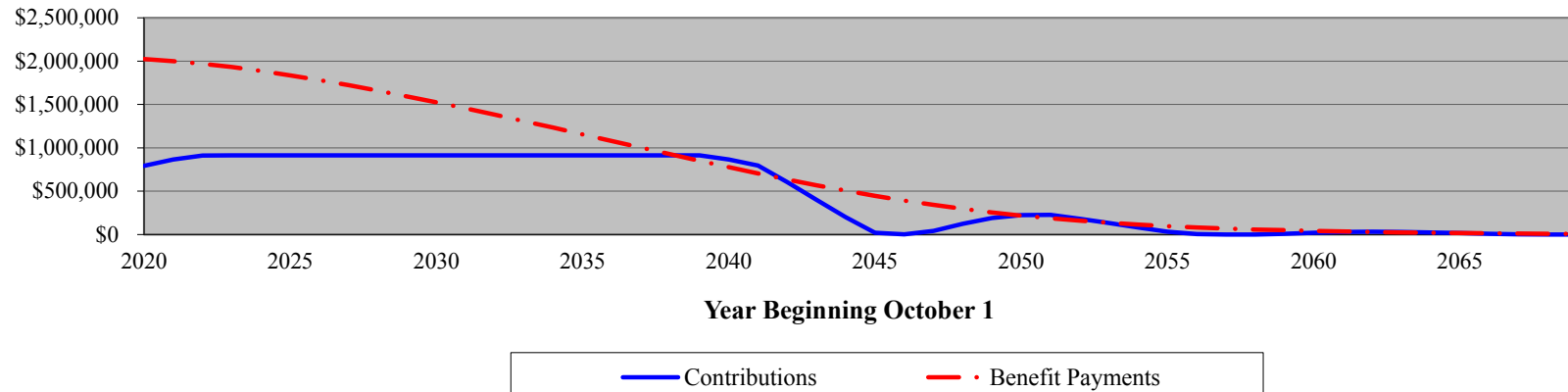
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$288,172,230	\$8,948,442	0.00313	\$793,368	\$2,024,424	\$521,390	(\$709,666)	\$8,238,776	2021
2021	288,172,230	8,238,776	0.00317	865,958	2,001,060	479,989	(655,113)	7,583,663	2022
2022	288,172,230	7,583,663	0.00317	910,624	1,969,847	441,380	(617,843)	6,965,820	2023
2023	288,172,230	6,965,820	0.00317	913,506	1,931,483	404,034	(613,943)	6,351,877	2024
2024	288,172,230	6,351,877	0.00317	913,506	1,886,741	367,040	(606,195)	5,745,682	2025
2025	288,172,230	5,745,682	0.00317	913,506	1,836,426	330,701	(592,219)	5,153,463	2026
2026	288,172,230	5,153,463	0.00317	913,506	1,781,322	295,383	(572,433)	4,581,030	2027
2027	288,172,230	4,581,030	0.00317	913,506	1,722,124	261,428	(547,190)	4,033,839	2028
2028	288,172,230	4,033,839	0.00317	913,506	1,659,410	229,159	(516,745)	3,517,094	2029
2029	288,172,230	3,517,094	0.00317	913,506	1,593,639	198,886	(481,247)	3,035,848	2030
2034	288,172,230	1,563,957	0.00317	913,506	1,232,181	87,940	(230,735)	1,333,222	2035
2039	288,172,230	1,096,046	0.00295	913,506	850,755	70,434	133,185	1,229,231	2040
2044	288,172,230	1,575,079	0.00176	199,396	506,255	88,998	(217,861)	1,357,217	2045
2049	288,172,230	244,857	0.00089	191,381	255,809	13,321	(51,107)	193,750	2050
2054	288,172,230	322,711	0.00040	80,576	114,830	19,115	(15,139)	307,572	2055
2059	288,172,230	86,964	0.00017	8,189	49,480	4,164	(37,127)	49,837	2060
2064	288,172,230	39,499	0.00007	23,891	20,938	2,560	5,513	45,012	2065
2069	288,172,230	27,621	0.00003	0	7,822	1,486	(6,336)	21,285	2070



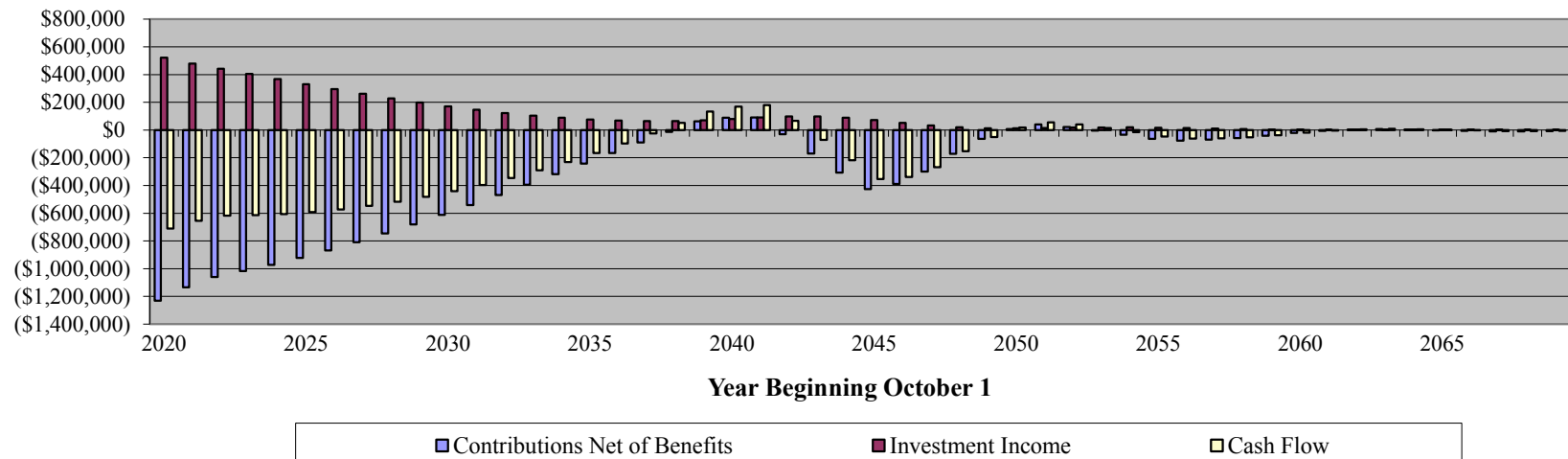
Mississippi Municipal Retirement Systems  
City of Vicksburg

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 6.25% on Investments)**

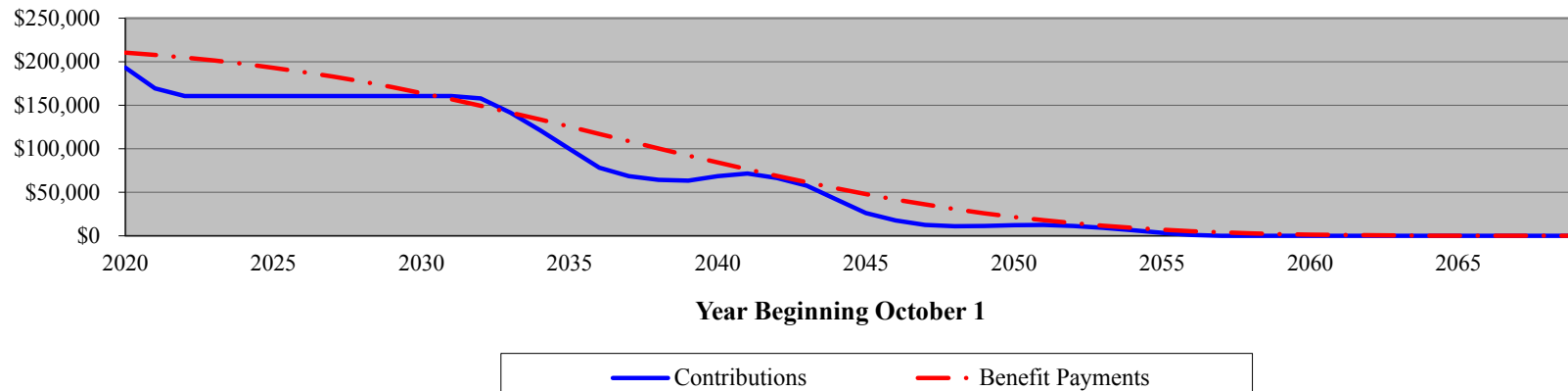
<b><u>Year Beginning July 1</u></b>	<b><u>Value of Assessed Property</u></b>	<b><u>MVA Balance July 1</u></b>	<b><u>Millage Rate</u></b>	<b><u>Contributions</u></b>	<b><u>Benefit Payments</u></b>	<b><u>Investment Income</u></b>	<b><u>Cash Flow</u></b>	<b><u>MVA Balance June 30</u></b>	<b><u>Year Ending June 30</u></b>
2020	\$54,792,825	\$318,583	0.00293	\$193,137	\$210,405	\$19,380	\$2,112	\$320,695	2021
2021	54,792,825	320,695	0.00293	169,310	207,782	18,859	(19,613)	301,082	2022
2022	54,792,825	301,082	0.00293	160,543	204,763	17,457	(26,763)	274,319	2023
2023	54,792,825	274,319	0.00293	160,543	201,320	15,890	(24,887)	249,432	2024
2024	54,792,825	249,432	0.00293	160,543	197,431	14,454	(22,434)	226,998	2025
2025	54,792,825	226,998	0.00293	160,543	193,076	13,186	(19,347)	207,650	2026
2026	54,792,825	207,650	0.00293	160,543	188,238	12,126	(15,569)	192,081	2027
2027	54,792,825	192,081	0.00293	160,543	182,905	11,317	(11,045)	181,036	2028
2028	54,792,825	181,036	0.00293	160,543	177,075	10,806	(5,726)	175,310	2029
2029	54,792,825	175,310	0.00293	160,543	170,763	10,642	422	175,732	2030
2034	54,792,825	233,130	0.00244	121,307	133,510	14,195	1,992	235,122	2035
2039	54,792,825	141,381	0.00168	63,474	92,199	7,952	(20,773)	120,608	2040
2044	54,792,825	122,582	0.00099	41,881	54,481	7,274	(5,326)	117,255	2045
2049	54,792,825	48,486	0.00047	11,441	25,950	2,584	(11,925)	36,561	2050
2054	54,792,825	22,677	0.00017	6,356	9,116	1,332	(1,428)	21,249	2055
2059	54,792,825	10,213	0.00004	0	1,997	577	(1,420)	8,793	2060
2064	54,792,825	7,420	0.00000	0	227	457	230	7,650	2065
2069	54,792,825	9,426	0.00000	0	12	589	577	10,003	2070



**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**

