



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, 2019





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

December 5, 2019

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, 2020. The results may not be applicable for other purposes.

The date of the valuation was June 30, 2019.

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 8 and the comments on page 10.

Since the previous valuation, the Board adopted new actuarial assumptions based on the experience investigation for the four-year period ending June 30, 2018. The results of this study were presented to the Board in April, 2019 and the Board adopted a new mortality table and recommended wage and price inflation assumptions at its August, 2019 meeting.

The calculation 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.

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 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 contribution rates.



Board of Trustees
December 5, 2019
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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.

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.

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 Systems, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the Systems. In addition, the valuation was completed in compliance with the laws governing the Systems. Those laws state, as a financing objective, that contributions will be in amounts sufficient to maintain actuarial soundness for the Systems for all future years.

Respectfully submitted,

A handwritten signature in blue ink, reading 'Edward J. Koebel'.

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

A handwritten signature in blue ink, reading 'Jonathan T. Craven'.

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

EJK/JTC:bdm



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**REPORT ON THE ANNUAL VALUATION OF THE
MISSISSIPPI MUNICIPAL RETIREMENT SYSTEMS
PREPARED AS OF JUNE 30, 2019**

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2019, 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, 2019.

SUMMARY OF PRINCIPAL RESULTS

VALUATION DATE	June 30, 2019	June 30, 2018
Active members included in valuation		
Number	2	4
Annual compensation	\$ 94,871	\$ 199,742
Retirees		
Number	1,634	1,694
Annual allowances	\$ 32,423,308	\$ 32,997,690
Assets		
Market related actuarial value	\$ 147,670,934	\$ 154,748,504
Market value	\$ 148,463,405	\$ 154,277,003
Unfunded employer liability	\$ 148,347,669	\$ 152,722,486

2. Actuarial present values for each Municipality are shown in Section III.
3. Rates of contribution payable by employers are given in Section IV and comments on the valuation results are given in Section V.



4. The funding policy was adopted by the Board in February, 2011. In this funding policy, contributions were 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 6.50% 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.
5. Since the previous valuation, the following changes were made to the benefit provisions:
 - The City of Hattiesburg increased the Cost-of-Living Adjustment provision cap from 30% to 32% 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, 2018.
6. Schedule B details the actuarial assumptions and methods employed. Since the previous valuation, various economic and demographic assumptions have been revised. The changes are summarized below and shown in more detail in Schedule B:
 - The investment return assumption to calculate the certified millage rates was lowered from 6.50% to 6.25% and will maintain a 150 basis point difference with the long-term investment return assumption.
 - The wage inflation assumption was reduced from 3.25% to 3.00%.
 - The price inflation assumption was reduced from 3.00% to 2.75%.
 - Changes were made to the Mortality Table for both healthy and disabled lives.



7. Schedule A of this report presents the development of the actuarial value of assets. Schedule B details the actuarial assumptions and methods employed. Schedule C gives a summary of the benefit and contribution provisions of the plan.
8. GASB 67 replaced GASB 25 for accounting results and a separate GASB 67 report is prepared for the Board. For continuity and informational purposes, we have included disclosure information in Section VIII. In the development of this disclosure information and the Actuarially Determined Employer Contribution (ADEC) rate, we have assumed the current Board adopted investment return rate of 7.75% and a closed amortization period of 15 years, which was established in the prior funding policy.
9. 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	Employer Liability	Valuation Assets	Unfunded Employer Liability
2010	27	\$1,425	\$52,764	1.7%	2,056	.01	\$35,418.6	2,485.5%	\$373,310	\$175,988	\$197,322
2011	25	1,357	54,274	2.9	2,016	.01	35,164.6	2,591.3	363,953	167,604	196,349
2012	21	1,131	53,869	(0.7)	1,978	.01	35,097.3	3,103.2	356,829	155,484	201,345
2013	16	794	49,615	(7.9)	1,941	.01	35,105.9	4,421.4	349,737	153,241	196,496
2014	14	727	51,953	4.7	1,890	.01	34,723.5	4,776.3	340,505	157,970	182,535
2015	11	579	52,661	1.4	1,849	.01	34,478.4	5,954.8	341,617	162,616	179,001
2016	8	419	52,375	(0.5)	1,798	.00	34,088.4	8,135.7	330,691	159,160	171,531
2017	6	321	53,541	2.2	1,754	.00	33,751.5	10,514.5	321,761	157,674	164,087
2018	4	200	49,936	(6.7)	1,694	.00	32,997.7	16,498.9	307,471	154,749	152,722
2019	2	95	47,436	(5.0)	1,634	.00	32,423.3	34,129.8	296,019	147,671	148,348

* Valuation date is 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 2 remaining active members in the closed System, one from the City of Clinton and one from the City of Greenwood. However, there are still 1,634 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, 2019 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Retired Lives

Employers	Retirement	Disability	Survivor	Total	Annual Benefit
Biloxi	40	5	44	89	\$2,129,549
Clarksdale	27	2	20	49	629,816
Clinton	27	0	5	32	878,305
Columbus	40	3	28	71	1,129,162
Greenville	39	0	30	69	926,882
Greenwood	29	1	21	51	737,271
Gulfport	46	8	29	83	1,817,791
Hattiesburg	100	6	35	141	3,335,907
Jackson	320	8	209	537	11,516,107
Laurel	48	3	26	77	1,003,323
McComb	10	3	9	22	316,792
Meridian	101	2	53	156	2,336,534
Natchez	23	3	19	45	651,300
Pascagoula	39	4	19	62	1,275,037
Tupelo	46	1	28	75	1,458,075
Vicksburg	29	2	30	61	2,046,788
Yazoo City	10	0	4	14	234,669
Total in MRS	974	51	609	1,634	\$32,423,308



SECTION III – ACTUARIAL PRESENT VALUES

The following exhibit shows the assets and liabilities of each municipality's retirement system as of the current valuation date of June 30, 2019. The items shown in the exhibit are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.



**MISSISSIPPI MUNICIPAL RETIREMENT SYSTEMS
ACTUARIAL PRESENT VALUES AS OF JUNE 30, 2019**

Actuarial Present Value, June 30, 2019							
Municipality	Active Members	Retired Members	Total	Portion Covered by Future Active Member Contributions	Total Employer Liability	Assets Used in Valuation	Unfunded Employer Liability
Biloxi	\$0	\$19,453,740	\$19,453,740	\$0	\$19,453,740	\$8,656,790	\$10,796,950
Clarksdale	0	5,593,695	5,593,695	0	5,593,695	1,271,821	4,321,874
Clinton	475,471	9,755,302	10,230,773	15,386	10,215,387	8,876,127	1,339,260
Columbus	0	9,719,770	9,719,770	0	9,719,770	980,871	8,738,899
Greenville	0	8,160,577	8,160,577	0	8,160,577	2,790,316	5,370,261
Greenwood	297,445	6,503,981	6,801,426	0	6,801,426	2,800,662	4,000,764
Gulfport	0	18,097,413	18,097,413	0	18,097,413	8,982,954	9,114,459
Hattiesburg	0	34,788,038	34,788,038	0	34,788,038	20,411,746	14,376,292
Jackson	0	99,744,412	99,744,412	0	99,744,412	51,044,170	48,700,242
Laurel	0	9,401,218	9,401,218	0	9,401,218	4,281,318	5,119,900
McComb	0	3,013,375	3,013,375	0	3,013,375	959,269	2,054,106
Meridian	0	20,113,805	20,113,805	0	20,113,805	12,487,236	7,626,569
Natchez	0	5,997,916	5,997,916	0	5,997,916	1,831,940	4,165,976
Pascagoula	0	10,830,821	10,830,821	0	10,830,821	7,352,884	3,477,937
Tupelo	0	13,072,228	13,072,228	0	13,072,228	5,201,851	7,870,377
Vicksburg	0	18,870,387	18,870,387	0	18,870,387	9,365,908	9,504,479
Yazoo City	0	2,144,395	2,144,395	0	2,144,395	375,071	1,769,324
Total in MRS	\$772,916	\$295,261,073	\$296,033,989	\$15,386	\$296,018,603	\$147,670,934	\$148,347,669



SECTION IV – COMPUTED EMPLOYER CONTRIBUTION RATES

Mississippi Municipal Retirement Systems Computed Employer Contribution Rates¹ As of June 30, 2019 for the 2021 Fiscal Year End

Municipality	Members Contributions²	Certified Rate for Fiscal Year Ending 9/30/2020	Current Millage Rate for Fiscal Year Ending 9/30/2020	Certified Rate for Fiscal Year Ending 9/30/2021⁴
Biloxi	9.00%	1.73	2.03	1.70
Clarksdale	10.00	4.81	4.81	5.15
Clinton	8.00	0.84	0.84	0.85
Columbus	10.00	5.82	5.82	5.82
Greenville	10.00	2.83	2.83	2.57
Greenwood	10.00	3.46	3.46	3.32
Gulfport	8.00	1.17	1.17	1.07
Hattiesburg	10.00	2.75	2.85	2.83
Jackson	10.00	3.87	3.87	3.82
Laurel	10.00	2.67	4.46	2.36
McComb	10.00	1.82	2.90	1.74
Meridian ³	10.00	2.18	2.50	2.02
Natchez	10.00	2.82	2.82	2.99
Pascagoula	10.00	1.43	3.00	1.23
Tupelo	7.00	1.40	1.61	1.46
Vicksburg	10.00	2.63	2.79	2.78
Yazoo City	10.00	3.57	3.57	3.46

¹ Millage rates applied to assessed property

² % of Active Member Payroll

³ Meridian General Employees' contribution rate is 7.00%

⁴ Calculated using cash flow projections and 6.25% investment return assumption (see Schedule H)

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	2014	2015	2016	2017	2018	Average % Increase
Biloxi	\$539,310,113	\$546,242,975	\$574,544,932	\$592,181,786	\$579,988,410	1.8%
Clarksdale	84,980,872	85,157,047	85,193,003	83,414,667	84,564,374	(0.1)
Clinton	203,433,087	208,834,622	208,729,466	207,772,348	215,682,895	1.5
Columbus	186,886,981	201,353,637	199,814,257	208,552,785	203,048,379	2.1
Greenville	204,466,100	201,281,727	198,785,980	193,778,841	198,137,988	(0.8)
Greenwood	111,065,244	110,861,169	110,569,319	113,719,820	115,001,002	0.9
Gulfport	712,273,192	711,742,489	737,909,261	749,196,904	761,757,224	1.7
Hattiesburg	425,665,993	432,115,121	437,346,637	470,026,110	467,912,761	2.4
Jackson	1,196,637,968	1,196,316,148	1,197,598,015	1,201,390,327	1,207,182,951	0.2
Laurel	163,138,096	169,085,361	166,322,618	180,736,668	182,758,430	2.9
McComb	94,837,146	94,847,079	100,951,928	102,003,113	102,851,829	2.0
Meridian	325,553,228	331,879,752	342,244,755	341,865,756	347,111,909	1.6
Natchez	130,647,499	132,429,491	139,808,455	153,395,477	128,903,757	(0.3)
Pascagoula	245,711,068	234,077,905	234,224,731	235,913,098	245,159,735	(0.1)
Tupelo	464,994,834	464,811,369	497,690,205	497,231,537	505,969,659	2.1
Vicksburg	315,300,118	322,195,038	326,807,260	327,183,714	322,506,308	0.6
Yazoo City	48,493,391	49,226,333	49,956,737	49,268,781	52,021,220	1.8



SECTION V – 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 8, the current millage rate for the fiscal year ending September 30, 2020 for three of the municipalities is less than the certified rate for the fiscal year ending September 30, 2021 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, 2021.
 - Clarksdale
 - Clinton
 - Natchez
2. As shown in the analysis of experience on pages 33 and 34, the System had an actuarial loss for the year. The loss was primarily due to the investment return on an actuarial value basis for the year being less than expected (6.18% vs. 7.75%). Partially offsetting this loss, there was a gain due to more retiree and beneficiary deaths than expected.
3. From 2017 to 2018, the value of assessed property increased for twelve and decreased for five of the seventeen municipalities. Under the funding policy, the value of assessed property is assumed to remain level. In general, if assessed property values grow, it contributes to a decrease in the millage rate.



SECTION VI – 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, 2019

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	1,634
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Inactive Participants	0
Active Participants	<u>2</u>
Total	1,636



2. The actuarial accrued liability is as follows:

ACTUARIAL ACCRUED LIABILITY

Municipality	Actives	Retirees	Total Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability
Biloxi	\$0	\$19,453,740	\$19,453,740	\$8,656,790	\$10,796,950
Clarksdale	0	5,593,695	5,593,695	1,271,821	4,321,874
Clinton	447,500	9,755,302	10,202,802	8,876,127	1,326,675
Columbus	0	9,719,770	9,719,770	980,871	8,738,899
Greenville	0	8,160,577	8,160,577	2,790,316	5,370,261
Greenwood	297,445	6,503,981	6,801,426	2,800,662	4,000,764
Gulfport	0	18,097,413	18,097,413	8,982,954	9,114,459
Hattiesburg	0	34,788,038	34,788,038	20,411,746	14,376,292
Jackson	0	99,744,412	99,744,412	51,044,170	48,700,242
Laurel	0	9,401,218	9,401,218	4,281,318	5,119,900
McComb	0	3,013,375	3,013,375	959,269	2,054,106
Meridian	0	20,113,805	20,113,805	12,487,236	7,626,569
Natchez	0	5,997,916	5,997,916	1,831,940	4,165,976
Pascagoula	0	10,830,821	10,830,821	7,352,884	3,477,937
Tupelo	0	13,072,228	13,072,228	5,201,851	7,870,377
Vicksburg	0	18,870,387	18,870,387	9,365,908	9,504,479
Yazoo City	0	2,144,395	2,144,395	375,071	1,769,324
Totals	\$744,945	\$295,261,073	\$296,006,018	\$147,670,934	\$148,335,084

During the year ended June 30, 2019, the Systems experienced a net decrease of \$11,450,480 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 three years of the 10-year period but the funded ratio has begun to slowly improve in recent years, though it is down for 2019 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)
09/30/10	\$175,988	\$372,897	47.2%	\$196,909	\$1,425	13,818.2%
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

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									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Biloxi	45.13%	43.06%	39.41%	38.18%	39.49%	39.55%	40.41%	41.27%	44.17%	44.50%
Clarksdale	16.56	19.43	19.99	23.82	23.18	26.51	27.32	26.80	26.10	22.74
Clinton	80.83	79.26	75.02	74.38	79.09	82.74	84.38	87.19	87.20	87.00
Columbus	10.92	11.80	10.74	11.29	13.10	10.54	9.82	9.49	9.76	10.09
Greenville	39.28	36.89	34.25	34.11	36.12	36.64	35.56	35.41	34.58	34.19
Greenwood	33.94	36.63	34.72	35.05	36.61	38.27	39.47	40.56	41.40	41.18
Gulfport	46.52	49.00	46.37	45.03	46.99	47.63	47.01	47.60	48.56	49.64
Hattiesburg	59.03	57.32	54.17	53.82	56.90	58.53	58.29	58.68	59.86	58.67
Jackson	53.94	51.61	48.80	48.35	50.83	51.49	50.95	51.24	52.25	51.17
Laurel	26.79	27.31	26.79	29.51	33.03	36.20	40.17	40.07	43.23	45.54
McComb	29.72	32.26	27.48	25.52	24.99	25.49	25.94	27.40	30.28	31.83
Meridian	30.92	31.34	31.22	33.90	38.17	42.40	48.51	55.76	59.84	62.08
Natchez	27.06	28.24	28.55	30.03	30.21	29.61	30.24	29.45	27.79	30.54
Pascagoula	53.87	53.47	50.75	52.53	57.57	59.64	60.57	62.75	66.07	67.89
Tupelo	48.91	45.59	42.81	42.51	44.96	44.31	43.82	43.26	42.41	39.79
Vicksburg	53.87	52.28	47.83	49.26	52.08	53.82	53.77	53.02	53.64	49.63
Yazoo City	25.65	21.98	22.32	21.96	16.66	20.20	18.42	17.25	19.12	17.49



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, 2019 is 15 years. The calculation of this amount is shown below.

**2019/2020 FISCAL YEAR
ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)
BASED ON THE VALUATION AS OF JUNE 30, 2019**

ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)	
Normal	\$ 3,423
Accrued liability	<u>16,774,185</u>
Total	\$ 16,777,608

5. Additional information as of June 30, 2019 follows.

Valuation date	6/30/19
Actuarial cost method	Entry age
Amortization method	Level dollar closed
Remaining amortization period	15 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases#	3.00% - 4.50%
*Includes price inflation at	2.75%
#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
2010-11	9/30/2010	\$18,576,054	122.7%
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	N/A
2019-20	6/30/2019	16,777,608	N/A

Contributions Required and Contributions Made

Municipality	Actuarially Determined Contribution	Actual 2017 – 2018 Contribution	Percentage Contributed
Biloxi	\$1,361,110	\$1,383,689	101.7%
Clarksdale	451,763	387,498	85.8
Clinton	148,371	28,109	18.9
Columbus	1,018,152	1,080,485	106.1
Greenville	621,694	547,552	88.1
Greenwood	467,119	447,022	95.7
Gulfport	1,094,473	1,025,767	93.7
Hattiesburg	1,586,000	1,490,690	94.0
Jackson	5,640,691	5,541,777	98.2
Laurel	665,799	764,620	114.8
McComb	258,344	272,021	105.3
Meridian	1,049,509	1,723,198	164.2
Natchez	535,866	351,000	65.5
Pascagoula	470,874	678,093	144.0
Tupelo	786,968	834,565	106.0
Vicksburg	1,039,444	818,979	78.8
Yazoo City	196,851	235,285	119.5
Total	\$17,393,028	\$17,610,351	101.2%



Solvency Tests
(\$ in Thousands)

Actuarial Accrued Liabilities for							
Date	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion	Net Assets Available for Benefits	Portions of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
9/30/10	\$2,295	\$362,444	\$8,158	\$175,988	100%	47.9%	0.0%
9/30/11	2,256	353,609	7,739	167,604	100	46.8	0.0
9/30/12	1,957	348,121	6,493	155,484	100	44.1	0.0
6/30/13	1,483	343,770	4,335	153,241	100	44.1	0.0
6/30/14	1,342	334,937	4,106	157,970	100	46.8	0.0
6/30/15	1,101	337,039	3,385	162,616	100	47.9	0.0
6/30/16	867	327,525	2,271	159,160	100	48.3	0.0
6/30/17	667	319,346	1,734	157,674	100	49.2	0.0
6/30/18	442	305,791	1,223	154,749	100	50.5	0.0
6/30/19	220	295,261	525	147,671	100	49.9	0.0

As can be seen from the table above, the MRS plan assets currently covers 100% of the active member contribution account balances as of the valuation date but only covers about 49.9% of the retiree liability. There remains zero assets to cover any employer financed active liabilities.



Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Active Members			
		Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
9/30/10	17	27	\$1,424,636	\$52,764	1.7%
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)

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

Item	Fiscal Year Ended September 30									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Beginning of Year	2,090	2,056	2,016	1,978	1,941	1,890	1,849	1,798	1,754	1,694
Added	44	46	39	40	29	40	46	34	36	37
Removed	(78)	(86)	(77)	(77)	(80)	(81)	(97)	(78)	(96)	(97)
End of Year	2,056	2,016	1,978	1,941	1,890	1,849	1,798	1,754	1,694	1,634

*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	2014	2015	2016	2017	2018	2019
Beginning of Year	\$35,105,891	\$34,723,473	\$34,478,364	\$34,088,404	\$33,751,528	\$32,997,690
Added	485,121	731,337	842,966	712,490	674,428	736,820
Removed	(1,041,083)	(1,119,680)	(1,365,194)	(1,174,872)	(1,530,600)	(1,441,224)
Benefit increase due to annual COLA	173,544	143,234	132,268	125,506	102,334	130,022
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	\$34,723,473	\$34,478,364	\$34,088,404	\$33,751,528	\$32,997,690	\$32,423,308



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, 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
July 1, 2013 to June 30, 2014									
Average Monthly Benefit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,778	\$2,778
Average Final Salary	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,160	\$47,160
Number of Active Retirants	0	0	0	0	0	0	0	2	2



SCHEDULE A
Development of Actuarial Value of Assets

	6/30/2018	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2023
A. Actuarial Value Beginning of Year	\$157,674,330	\$154,748,504				
B. Market Value End of Year	154,277,003	148,463,405				
C. Market Value Beginning of Year	158,569,612	154,277,003				
D. Cash Flow						
D1. Contributions	17,635,443	17,129,032				
D2. Other Revenue	0	0				
D3. Benefit Payments	(33,604,454)	(32,934,847)				
D4. Administrative Expenses	(352,205)	(342,279)				
D5. Investment Expenses	0	0				
D6. Net	(16,321,216)	(16,148,094)				
E. Investment Income						
E1. Market Total: B.-C.-D6.	12,028,607	10,334,496				
E2. Assumed Rate	7.75%	7.75%				
E3. Amount for Immediate Recognition	11,656,698	11,330,729				
E4. Amount for Phased-In Recognition	371,909	(996,233)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	74,382	(199,247)	0	0	0	0
F2. First Prior Year	1,853,071	74,382	(199,247)	0	0	0
F3. Second Prior Year	(2,339,837)	1,853,071	74,382	(199,247)	0	0
F4. Third Prior Year	(1,648,574)	(2,339,837)	1,853,071	74,382	(199,247)	0
F5. Fourth Prior Year	<u>3,799,650</u>	<u>(1,648,574)</u>	<u>(2,339,837)</u>	<u>1,853,071</u>	<u>74,382</u>	<u>(199,247)</u>
F6. Total Recognized Investment Gain	1,738,692	(2,260,205)	(611,631)	1,728,206	(124,865)	(199,247)
G. Adjustment:	0	0				
H. Actuarial Value End of Year:						
A.+D6.+E3.+F6.+G.	\$154,748,504	\$147,670,934				
I. Difference Between Market & Actuarial Values	(471,501)	792,471	1,404,102	(324,104)	(199,239)	8

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



SCHEDULE B

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

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, 2019, 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 (not to exceed 64.4%) 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.



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	5	0	0	1,012	57	655	1,729
Refunded							
Deceased				(40)	(6)	(46)	(92)
Retired*	(3)			1			(2)
Added				1			1
For Valuation	2	0	0	974	51	609	1,636

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

STATUS RECONCILIATION FROM 2018 TO 2019

	Actives	Retirees	Disability	Survivor	Total
As of June 30, 2018	4	1,014	57	623	1,698
Retirements	(2)	2			0
Disabilities					
Death with Survivors		(24)	(1)	35	10
Deaths with no Survivors		(18)	(5)	(49)	(72)
Benefits Expired					
Data Corrections					
As of June 30, 2019	2	974	51	609	1,636



SCHEDULE D

Retirants & Beneficiaries as of June 30, 2019

Tabulated by Year of Retirement

Year of Retirement	No.	Annual Benefits excluding COLA	COLA	Total Annual Benefits	Average Monthly Benefit
2019	3	\$ 96,248	\$ 0	\$ 96,248	\$ 2,674
2018	1	43,396	0	43,396	3,616
2017	2	76,266	1,383	77,649	3,235
2016	4	153,667	3,955	157,622	3,284
2015	1	25,335	0	25,335	2,111
2014	3	111,086	4,776	115,862	3,218
2013	9	364,151	35,874	400,025	3,704
2012	4	164,423	23,641	188,064	3,918
2011	1	25,791	0	25,791	2,149
2010	5	156,183	29,897	186,080	3,101
2009	3	79,418	6,048	85,466	2,374
2008	5	132,896	16,807	149,703	2,495
2007	8	250,897	60,883	311,780	3,248
2006	14	371,190	65,454	436,644	2,599
2005	28	714,241	135,324	849,565	2,528
2004	19	440,730	95,179	535,909	2,350
2003	33	870,365	207,445	1,077,810	2,722
2002	41	1,142,239	273,519	1,415,758	2,878
2001	24	680,771	145,357	826,128	2,869
2000	36	903,344	220,359	1,123,703	2,601
1999	34	814,471	177,451	991,922	2,431
1998	41	979,150	203,137	1,182,287	2,403
1997	52	1,119,900	200,751	1,320,651	2,116
1996	56	1,100,152	186,045	1,286,197	1,914
1995	102	1,766,878	282,434	2,049,312	1,674
1994	134	2,317,006	456,453	2,773,459	1,725
1993	93	1,567,875	313,177	1,881,052	1,686
1992	88	1,492,778	277,853	1,770,631	1,677
1991	74	1,253,139	210,170	1,463,309	1,648
1990	64	959,759	152,150	1,111,909	1,448
1989	46	625,951	140,941	766,892	1,389
1988	74	1,077,633	215,072	1,292,705	1,456
1987	44	551,900	127,297	679,197	1,286
1986	55	747,908	183,441	931,349	1,411
1985 & Prior	433	3,863,179	930,719	4,793,898	923
Totals	1,634	\$ 27,040,316	\$ 5,382,992	\$ 32,423,308	\$ 1,654



SCHEDULE D

Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2019

Amount of Monthly Benefit	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret. Type 3*
\$1 - \$300	11	1	2	8
301 - 600	76	13	3	60
601 - 900	196	74	16	106
901 - 1,200	324	149	20	155
1,201 - 1,500	206	138	7	61
1,501 - 1,800	231	159	1	71
1,801 - 2,100	149	112		37
2,101 - 2,400	140	104		36
2,401 - 2,700	94	69	1	24
Over 2,700	207	155	1	51
Totals	1,634	974	51	609

***Type of Retirement**

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



SCHEDULE D

**Retirant and Beneficiary Information June 30, 2019
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	25	698,303			13	238,227	38	936,530
60 – 64	44	1,315,179			24	487,864	68	1,803,043
65 – 69	212	5,354,020	15	210,556	54	1,034,971	281	6,599,547
70 – 74	257	5,842,933	10	118,561	117	2,122,995	384	8,084,489
75 – 79	178	3,927,738	14	131,725	140	2,436,014	332	6,495,477
80 – 84	144	2,727,658	7	100,074	115	1,898,923	266	4,726,655
85 – 89	86	1,502,983	3	23,645	92	1,272,898	181	2,799,526
90 – 94	25	350,837	1	7,170	45	475,710	71	833,717
95	2	21,953			2	19,435	4	41,388
96					1	7,500	1	7,500
97			1	10,777			1	10,777
98	1	7,950			1	6,779	2	14,729
99					2	17,231	2	17,231
100 & Over								
Totals	974	\$21,749,554	51	\$602,508	609	\$10,071,246	1,634	\$32,423,308



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, 2019 is shown below.

		\$ Thousands
(1)	UAAL* as of beginning of year	\$ 152,708.0
(2)	Total normal cost from last valuation	7.9
(3)	Total contributions**	16,786.8
(4)	Interest accrual: $\{[(1) + (2)] \times .0775\} - [(3) \times .03803]$	<u>11,197.1</u>
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 147,126.2
(6)	Change due to plan amendments	827.9
(7)	Change due to new actuarial assumptions or methods	<u>(850.2)</u>
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 147,103.9
(9)	Actual UAAL as of end of year	\$ 148,335.1
(10)	Gain/(loss): (8) – (9)	\$ (1,231.2)

*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 6/30/19	\$ Gain (or Loss) For Year Ending 6/30/18
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (5.4)	\$ 42.2
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0	0.0
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	0.6	0.5
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	0.0	0.0
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	1.4	14.3
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(2,308.4)	1,796.3
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	1,751.7	4,562.2
Other. Miscellaneous gains and losses resulting from data adjustments, COLAs, etc.	<u>(671.1)</u>	<u>(14.1)</u>
Gain (or Loss) During Year From Financial Experience	\$(1,231.2)	\$6,401.4
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>22.3</u>	<u>(253.0)</u>
Composite Gain (or Loss) During Year	\$(1,208.9)	\$6,148.4



SCHEDULE F

GLOSSARY

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability”.

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

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.

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

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

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost”. Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

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

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



SCHEDULE G

THE NATURE OF ACTUARIAL PROJECTIONS

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

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

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

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



SCHEDULE H

CASH FLOW PROJECTIONS BASED ON FUNDING POLICY



**Mississippi Municipal Retirement Systems
City of Biloxi**

Cash Flow Projection

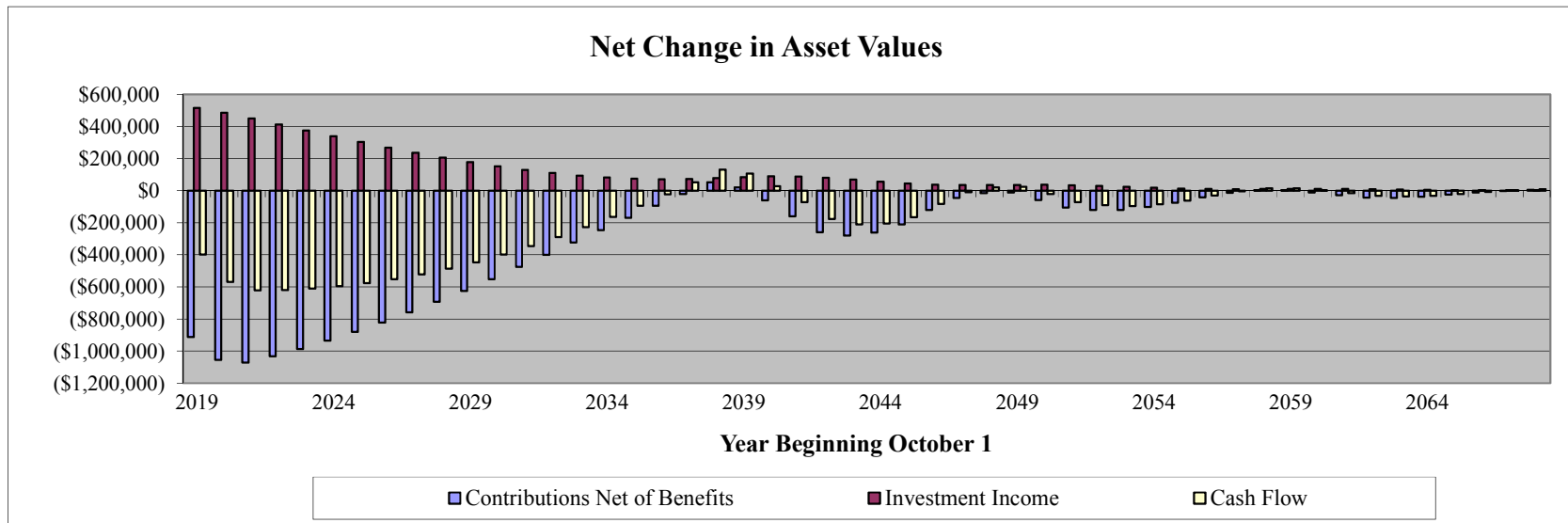
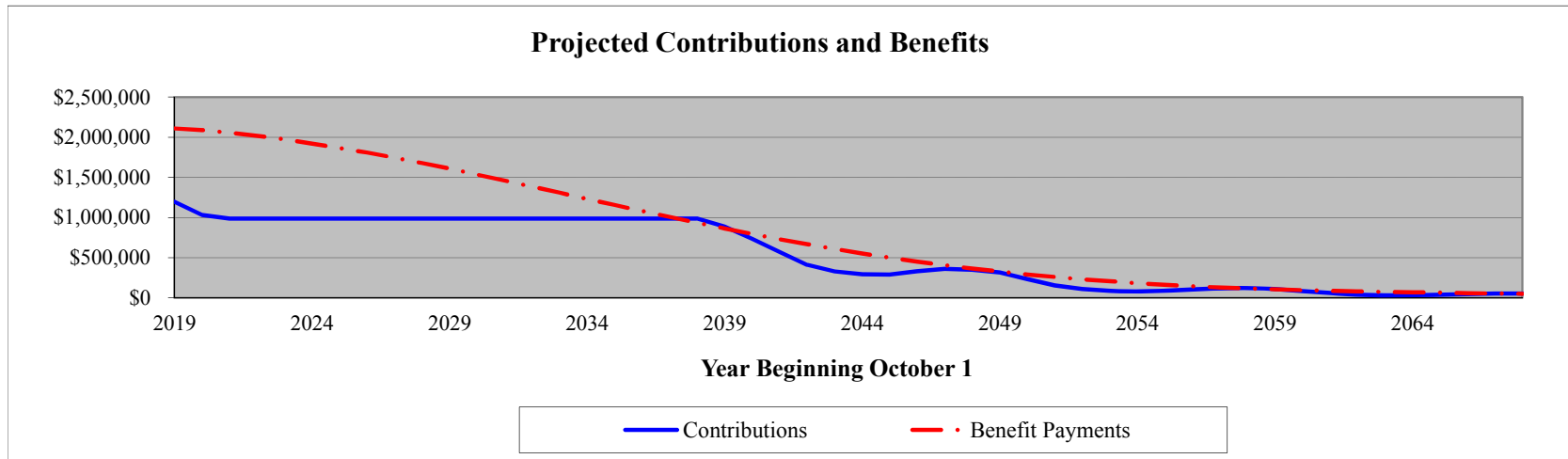
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$579,988,410	\$8,703,246	0.00170	\$1,196,889	\$2,109,450	\$515,868	(\$396,693)	\$8,306,553	2020
2020	579,988,410	8,306,553	0.00170	1,033,829	2,088,868	486,689	(568,350)	7,738,203	2021
2021	579,988,410	7,738,203	0.00170	985,980	2,057,245	450,668	(620,597)	7,117,605	2022
2022	579,988,410	7,117,605	0.00170	985,980	2,018,647	413,069	(619,598)	6,498,007	2023
2023	579,988,410	6,498,007	0.00170	985,980	1,971,849	375,784	(610,085)	5,887,922	2024
2024	579,988,410	5,887,922	0.00170	985,980	1,920,598	339,231	(595,387)	5,292,535	2025
2025	579,988,410	5,292,535	0.00170	985,980	1,866,021	303,699	(576,342)	4,716,194	2026
2026	579,988,410	4,716,194	0.00170	985,980	1,806,935	269,496	(551,459)	4,164,735	2027
2027	579,988,410	4,164,735	0.00170	985,980	1,743,988	236,967	(521,041)	3,643,693	2028
2028	579,988,410	3,643,693	0.00170	985,980	1,678,571	206,415	(486,176)	3,157,517	2029
2033	579,988,410	1,679,249	0.00170	985,980	1,308,203	95,036	(227,187)	1,452,062	2034
2038	579,988,410	1,227,678	0.00161	985,980	933,118	78,357	131,219	1,358,897	2039
2043	579,988,410	1,247,884	0.00105	328,791	608,355	69,389	(210,175)	1,037,709	2044
2048	579,988,410	577,277	0.00063	349,110	364,269	35,613	20,454	597,731	2049
2053	579,988,410	442,258	0.00035	86,141	205,316	23,973	(95,202)	347,057	2054
2058	579,988,410	171,062	0.00020	121,252	116,940	10,824	15,136	186,198	2059
2063	579,988,410	157,122	0.00013	30,110	73,808	8,475	(35,223)	121,899	2064
2068	579,988,410	66,713	0.00009	55,103	49,922	4,329	9,510	76,224	2069



**Mississippi Municipal Retirement Systems
City of Biloxi**

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





**Mississippi Municipal Retirement Systems
City of Clarksdale**

Cash Flow Projection

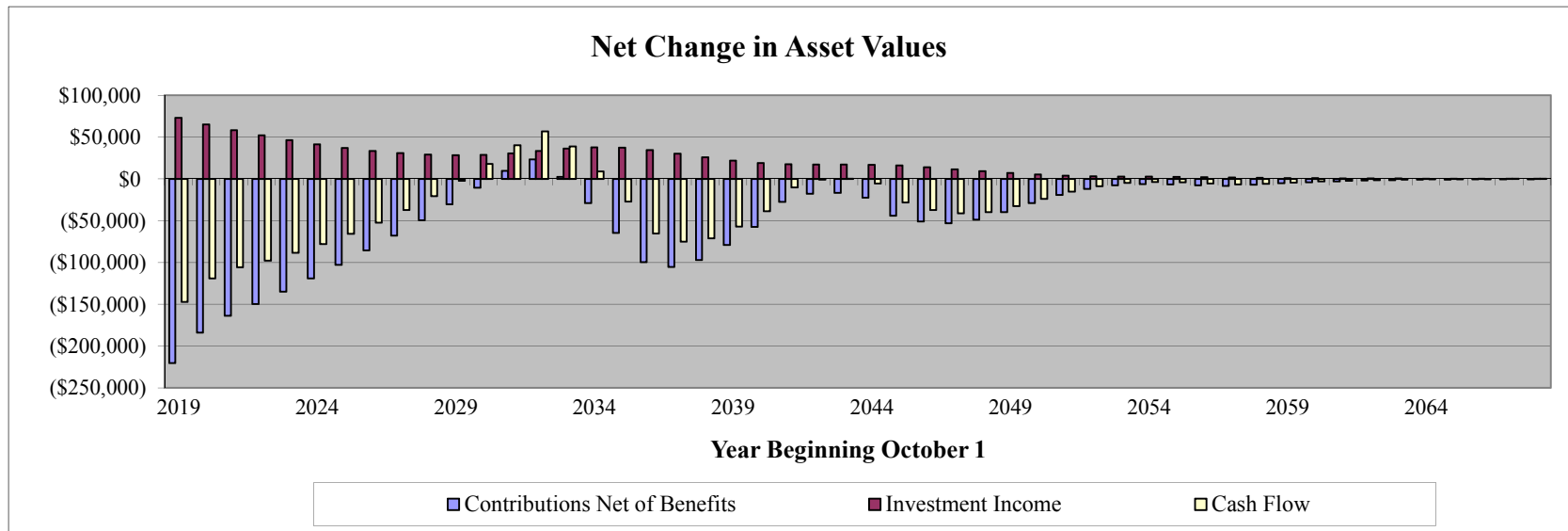
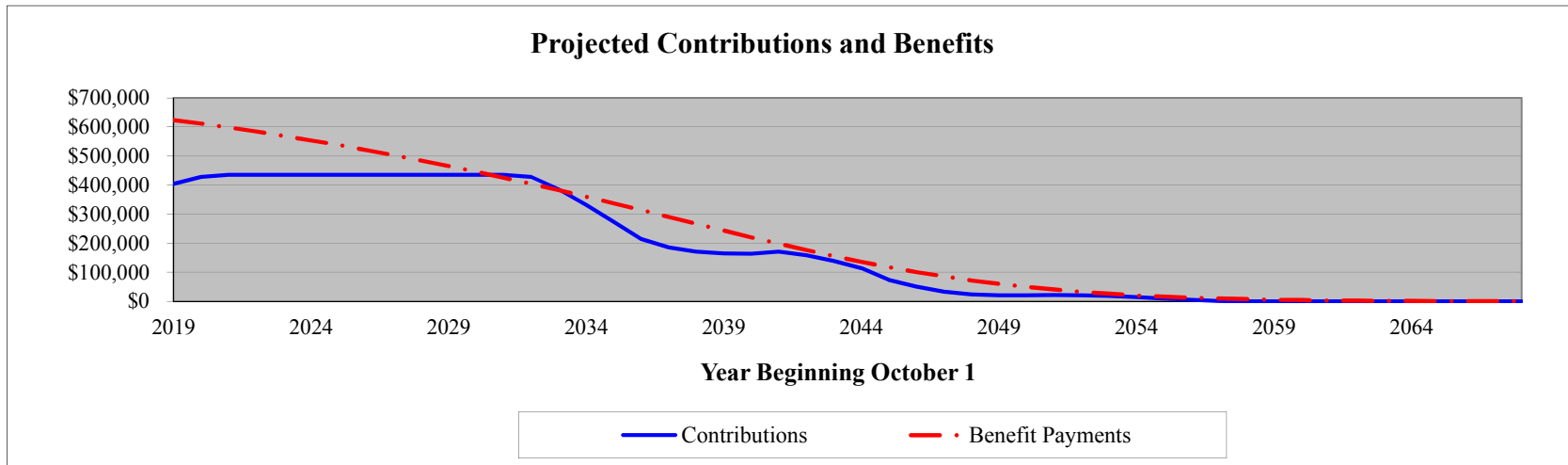
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$84,564,374	\$1,278,646	0.00515	\$404,121	\$624,506	\$73,133	(\$147,252)	\$1,131,394	2020
2020	84,564,374	1,131,394	0.00515	428,319	612,436	65,046	(119,071)	1,012,324	2021
2021	84,564,374	1,012,324	0.00515	435,507	599,323	58,229	(105,587)	906,736	2022
2022	84,564,374	906,736	0.00515	435,507	585,266	52,062	(97,697)	809,039	2023
2023	84,564,374	809,039	0.00515	435,507	570,359	46,415	(88,437)	720,602	2024
2024	84,564,374	720,602	0.00515	435,507	554,674	41,370	(77,797)	642,805	2025
2025	84,564,374	642,805	0.00515	435,507	538,267	37,013	(65,747)	577,058	2026
2026	84,564,374	577,058	0.00515	435,507	521,180	33,429	(52,244)	524,814	2027
2027	84,564,374	524,814	0.00515	435,507	503,436	30,710	(37,219)	487,596	2028
2028	84,564,374	487,596	0.00515	435,507	485,040	28,950	(20,583)	467,013	2029
2033	84,564,374	579,802	0.00453	385,434	383,014	36,312	38,732	618,534	2034
2038	84,564,374	459,660	0.00316	170,372	267,288	25,746	(71,170)	388,490	2039
2043	84,564,374	282,029	0.00184	138,898	155,619	17,112	391	282,421	2044
2048	84,564,374	170,046	0.00086	23,532	72,345	9,126	(39,687)	130,359	2049
2053	84,564,374	49,827	0.00031	18,275	26,035	2,875	(4,885)	44,942	2054
2058	84,564,374	25,203	0.00008	0	7,124	1,356	(5,768)	19,435	2059
2063	84,564,374	8,346	0.00002	0	1,456	477	(979)	7,368	2064
2068	84,564,374	6,545	0.00000	0	184	403	219	6,763	2069



**Mississippi Municipal Retirement Systems
City of Clarksdale**

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





**Mississippi Municipal Retirement Systems
City of Clinton**

Cash Flow Projection

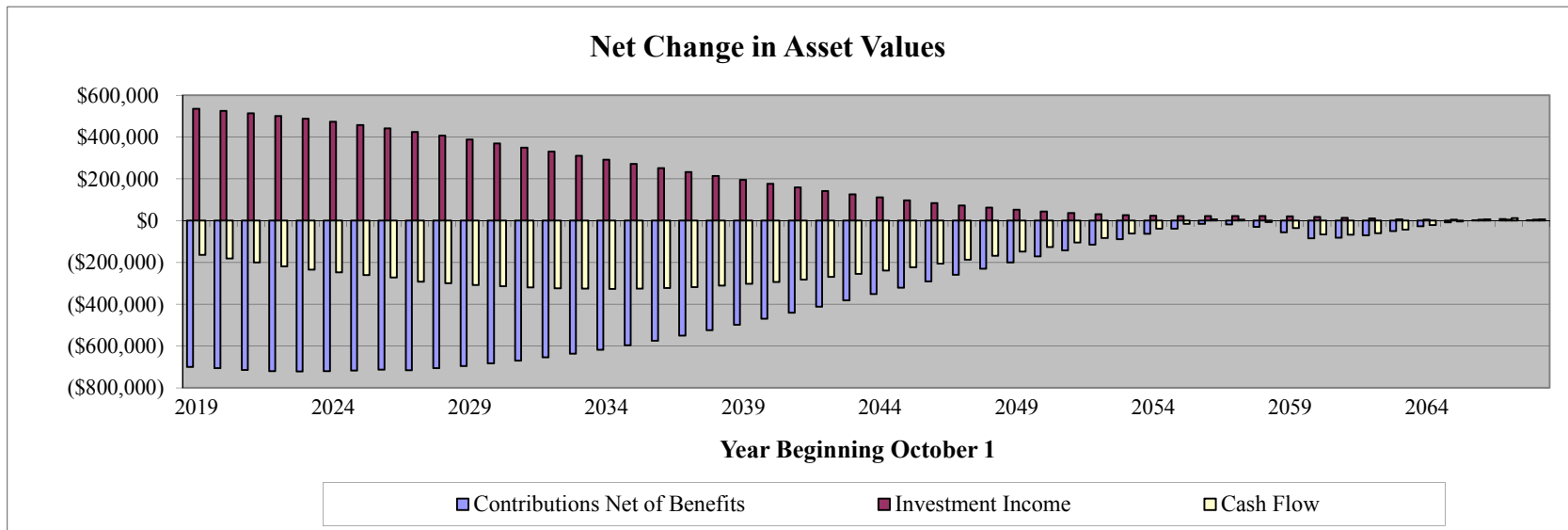
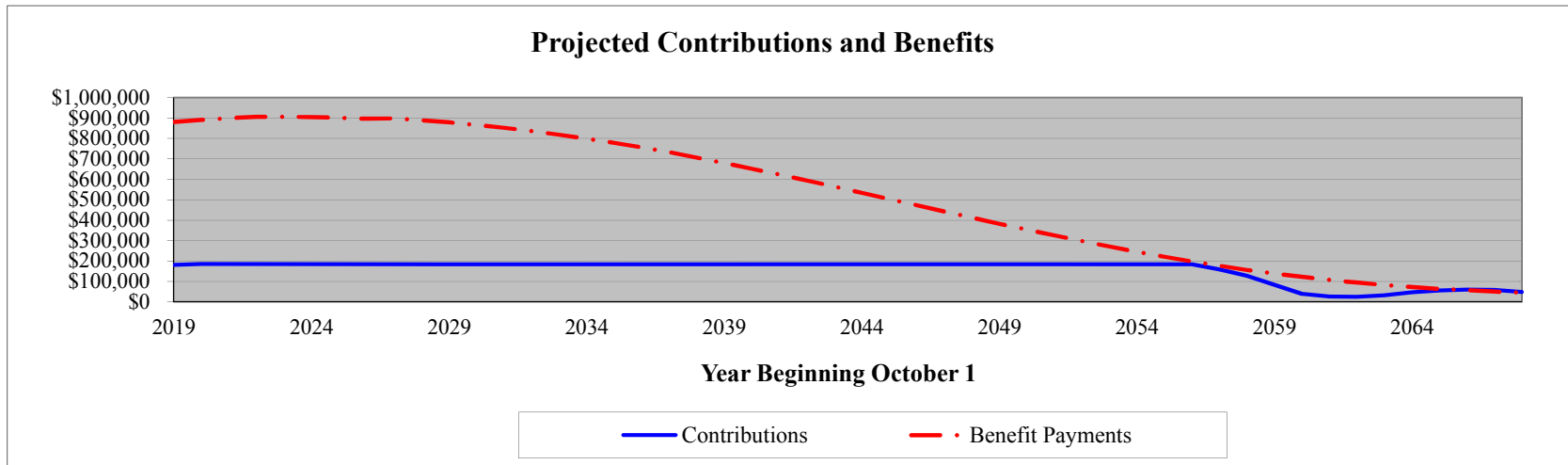
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$215,682,895	\$8,923,761	0.00085	\$180,854	\$881,255	\$536,179	(\$164,222)	\$8,759,539	2020
2020	215,682,895	8,759,539	0.00085	185,582	892,030	525,729	(180,719)	8,578,820	2021
2021	215,682,895	8,578,820	0.00085	185,607	900,123	514,186	(200,330)	8,378,490	2022
2022	215,682,895	8,378,490	0.00085	185,187	905,739	501,480	(219,072)	8,159,419	2023
2023	215,682,895	8,159,419	0.00085	184,844	906,940	487,740	(234,356)	7,925,063	2024
2024	215,682,895	7,925,063	0.00085	184,563	905,465	473,130	(247,772)	7,677,291	2025
2025	215,682,895	7,677,291	0.00085	184,334	902,364	457,732	(260,298)	7,416,993	2026
2026	215,682,895	7,416,993	0.00085	184,147	897,677	441,602	(271,928)	7,145,065	2027
2027	215,682,895	7,145,065	0.00085	183,330	899,339	424,530	(291,479)	6,853,587	2028
2028	215,682,895	6,853,587	0.00085	183,330	889,925	406,603	(299,992)	6,553,595	2029
2033	215,682,895	5,289,083	0.00085	183,330	819,808	310,979	(325,499)	4,963,584	2034
2038	215,682,895	3,672,684	0.00085	183,330	707,762	213,403	(311,029)	3,361,655	2039
2043	215,682,895	2,215,272	0.00085	183,330	564,813	126,714	(254,769)	1,960,503	2044
2048	215,682,895	1,106,078	0.00085	183,330	412,851	62,066	(167,455)	938,623	2049
2053	215,682,895	476,119	0.00085	183,330	271,436	27,046	(61,060)	415,059	2054
2058	215,682,895	372,488	0.00073	127,950	157,290	22,378	(6,962)	365,526	2059
2063	215,682,895	137,347	0.00038	32,507	82,924	7,033	(43,384)	93,963	2064
2068	215,682,895	87,901	0.00021	47,524	46,250	5,533	6,807	94,708	2069



Mississippi Municipal Retirement Systems
City of Clinton

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of Columbus**

Cash Flow Projection

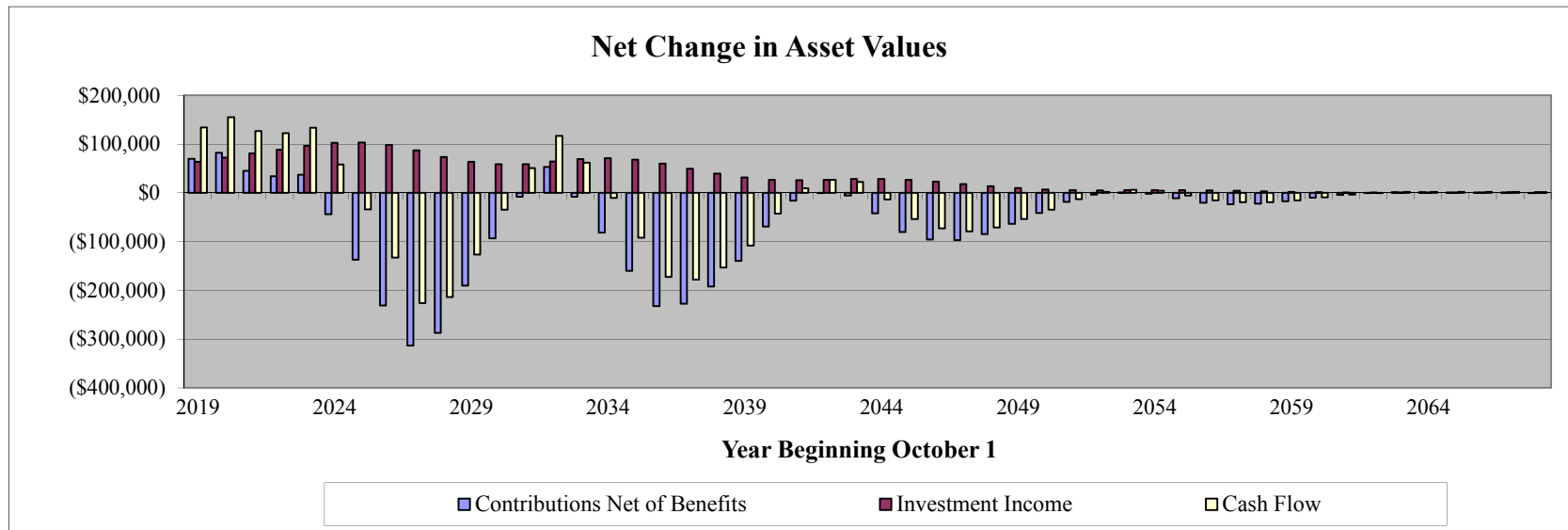
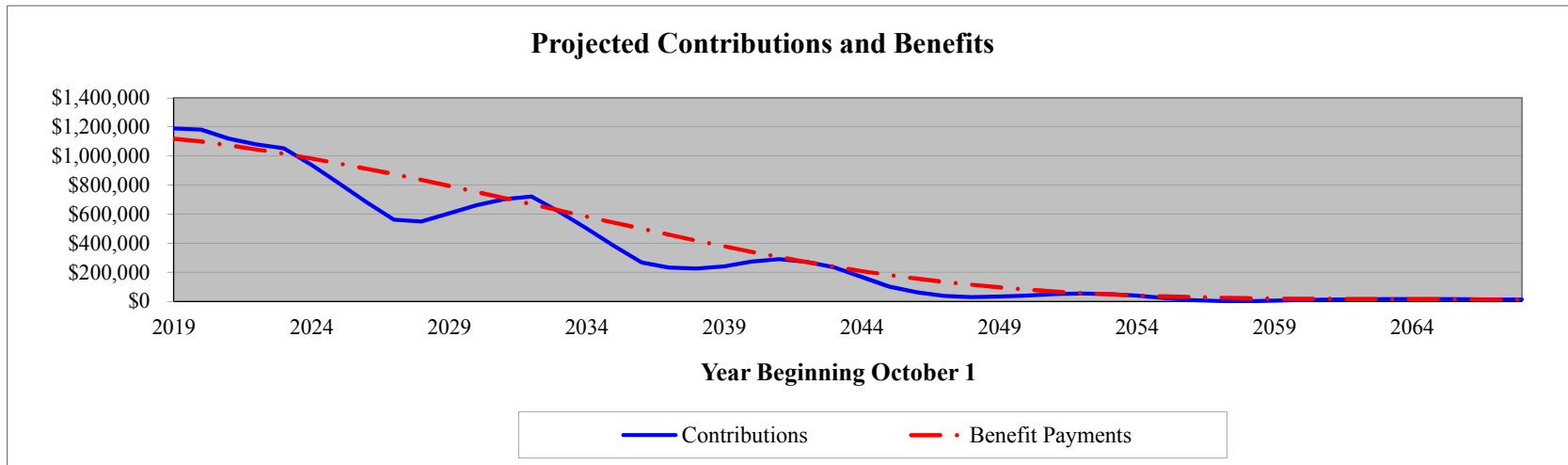
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$203,048,379	\$986,134	0.00582	\$1,189,750	\$1,119,754	\$63,788	\$133,784	\$1,119,918	2020
2020	203,048,379	1,119,918	0.00541	1,181,742	1,099,303	72,532	154,971	1,274,889	2021
2021	203,048,379	1,274,889	0.00529	1,119,912	1,074,651	81,074	126,335	1,401,225	2022
2022	203,048,379	1,401,225	0.00516	1,080,814	1,046,944	88,619	122,489	1,523,714	2023
2023	203,048,379	1,523,714	0.00501	1,053,870	1,016,580	96,380	133,670	1,657,384	2024
2024	203,048,379	1,657,384	0.00485	939,989	983,930	102,234	58,293	1,715,677	2025
2025	203,048,379	1,715,677	0.00468	812,116	949,327	103,007	(34,204)	1,681,474	2026
2026	203,048,379	1,681,474	0.00450	681,953	913,088	97,979	(133,156)	1,548,318	2027
2027	203,048,379	1,548,318	0.00431	562,019	875,482	87,123	(226,340)	1,321,978	2028
2028	203,048,379	1,321,978	0.00412	548,156	835,737	73,773	(213,808)	1,108,170	2029
2033	203,048,379	1,114,130	0.00308	618,582	626,378	69,393	61,597	1,175,727	2034
2038	203,048,379	722,626	0.00206	226,322	418,594	39,247	(153,025)	569,601	2039
2043	203,048,379	454,952	0.00118	233,235	238,998	28,257	22,494	477,447	2044
2048	203,048,379	257,957	0.00056	29,165	113,870	13,515	(71,190)	186,768	2049
2053	203,048,379	86,691	0.00023	48,180	47,581	5,437	6,036	92,727	2054
2058	203,048,379	56,150	0.00011	0	22,101	2,829	(19,272)	36,878	2059
2063	203,048,379	8,305	0.00007	15,389	14,126	558	1,821	10,125	2064
2068	203,048,379	16,667	0.00005	11,018	11,111	1,039	946	17,614	2069



**Mississippi Municipal Retirement Systems
City of Columbus**

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





**Mississippi Municipal Retirement Systems
City of Greenville**

Cash Flow Projection

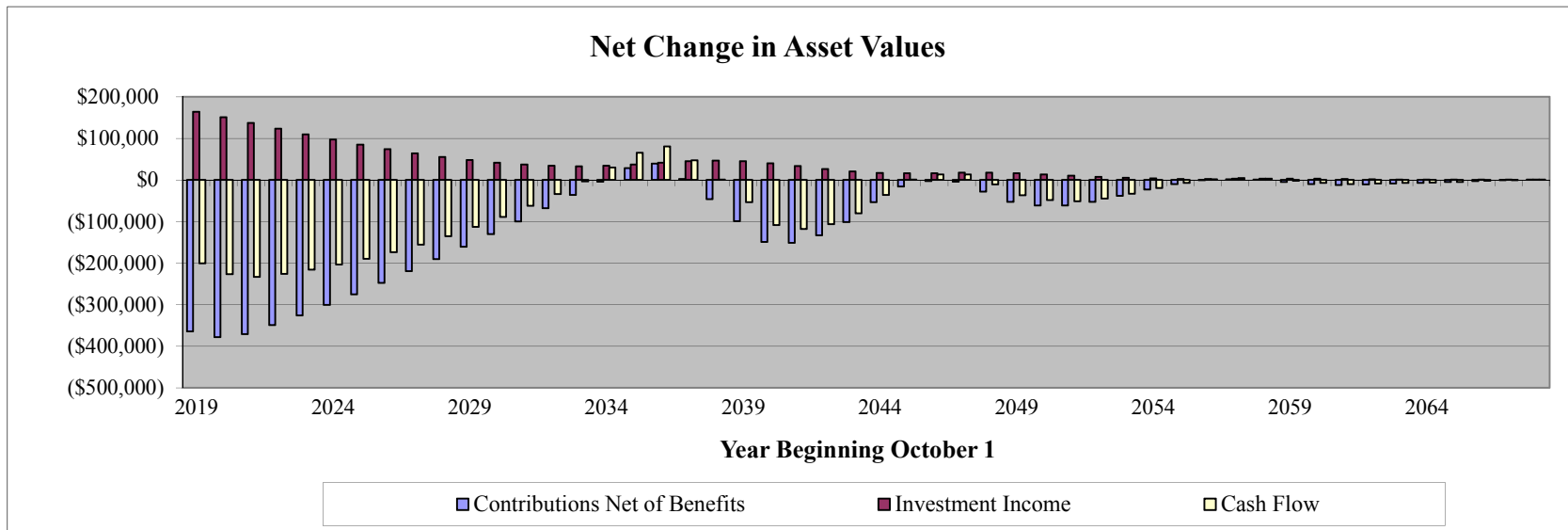
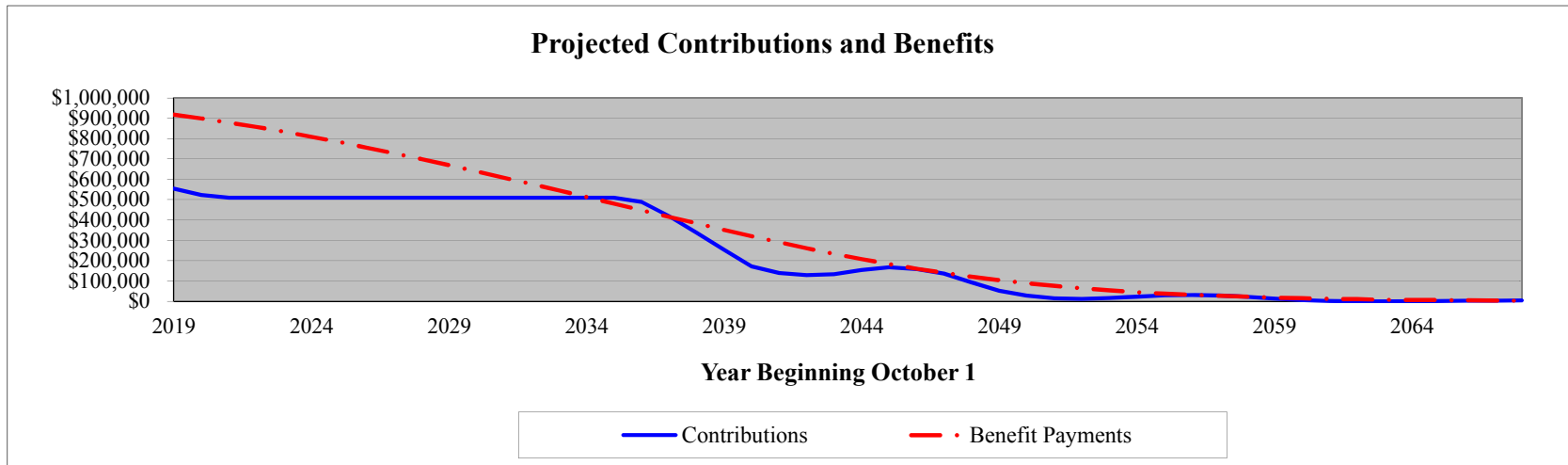
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$198,137,988	\$2,805,290	0.00257	\$554,255	\$918,704	\$164,114	(\$200,335)	\$2,604,954	2020
2020	198,137,988	2,604,954	0.00257	522,094	900,108	151,176	(226,838)	2,378,116	2021
2021	198,137,988	2,378,116	0.00257	509,215	879,879	137,225	(233,439)	2,144,677	2022
2022	198,137,988	2,144,677	0.00257	509,215	858,063	123,306	(225,542)	1,919,136	2023
2023	198,137,988	1,919,136	0.00257	509,215	834,747	109,927	(215,605)	1,703,531	2024
2024	198,137,988	1,703,531	0.00257	509,215	810,036	97,212	(203,609)	1,499,922	2025
2025	198,137,988	1,499,922	0.00257	509,215	784,056	85,286	(189,555)	1,310,366	2026
2026	198,137,988	1,310,366	0.00257	509,215	756,946	74,274	(173,457)	1,136,909	2027
2027	198,137,988	1,136,909	0.00257	509,215	728,829	64,298	(155,316)	981,592	2028
2028	198,137,988	981,592	0.00257	509,215	699,823	55,483	(135,125)	846,467	2029
2033	198,137,988	549,044	0.00257	509,215	545,464	33,200	(3,049)	545,995	2034
2038	198,137,988	769,362	0.00194	337,706	383,767	46,668	607	769,970	2039
2043	198,137,988	382,598	0.00118	132,668	233,795	20,800	(80,327)	302,271	2044
2048	198,137,988	292,640	0.00061	92,773	120,887	17,425	(10,689)	281,951	2049
2053	198,137,988	101,360	0.00027	16,088	54,072	5,166	(32,818)	68,543	2054
2058	198,137,988	48,672	0.00011	22,405	22,144	3,050	3,311	51,983	2059
2063	198,137,988	24,511	0.00004	0	8,523	1,270	(7,253)	17,258	2064
2068	198,137,988	3,704	0.00002	3,297	3,043	239	493	4,197	2069



**Mississippi Municipal Retirement Systems
City of Greenville**

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





**Mississippi Municipal Retirement Systems
City of Greenwood**

Cash Flow Projection

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

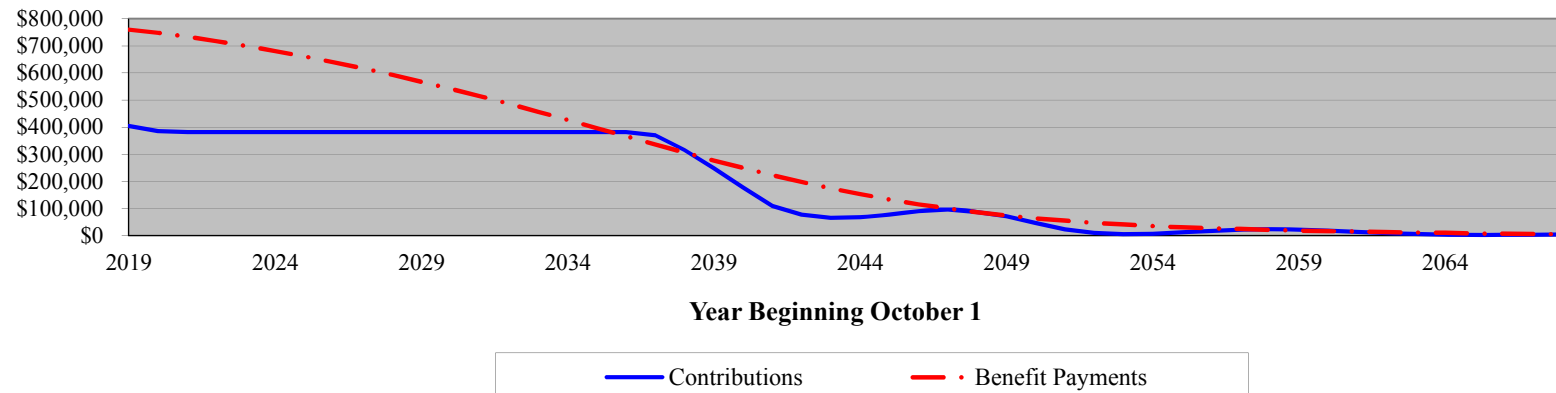
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$115,001,002	\$2,815,692	0.00332	\$404,471	\$760,409	\$165,026	(\$190,912)	\$2,624,780	2020
2020	115,001,002	2,624,780	0.00332	385,828	748,102	152,899	(209,375)	2,415,405	2021
2021	115,001,002	2,415,405	0.00332	381,803	733,894	140,127	(211,964)	2,203,441	2022
2022	115,001,002	2,203,441	0.00332	381,803	717,982	127,369	(208,810)	1,994,631	2023
2023	115,001,002	1,994,631	0.00332	381,803	700,530	114,855	(203,872)	1,790,759	2024
2024	115,001,002	1,790,759	0.00332	381,803	681,668	102,694	(197,171)	1,593,588	2025
2025	115,001,002	1,593,588	0.00332	381,803	661,497	90,991	(188,703)	1,404,885	2026
2026	115,001,002	1,404,885	0.00332	381,803	640,075	79,857	(178,415)	1,226,469	2027
2027	115,001,002	1,226,469	0.00332	381,803	617,428	69,403	(166,222)	1,060,247	2028
2028	115,001,002	1,060,247	0.00332	381,803	593,568	59,748	(152,017)	908,231	2029
2033	115,001,002	486,026	0.00332	381,803	457,403	28,050	(47,550)	438,476	2034
2038	115,001,002	535,405	0.00267	315,765	307,023	33,732	42,474	577,879	2039
2043	115,001,002	366,149	0.00152	65,838	174,853	19,529	(89,486)	276,663	2044
2048	115,001,002	149,041	0.00075	87,391	86,540	9,341	10,192	159,233	2049
2053	115,001,002	104,503	0.00036	5,195	41,358	5,418	(30,745)	73,758	2054
2058	115,001,002	21,311	0.00019	23,257	21,744	1,378	2,891	24,202	2059
2063	115,001,002	31,072	0.00010	5,616	11,949	1,747	(4,586)	26,486	2064
2068	115,001,002	8,075	0.00005	4,106	5,749	454	(1,189)	6,885	2069



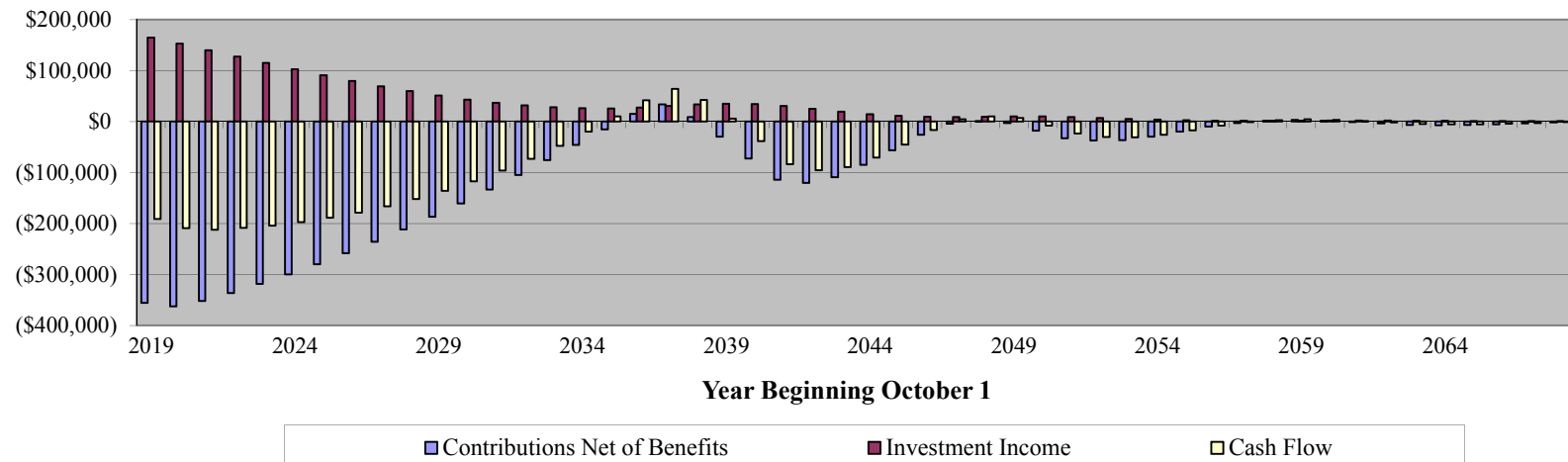
Mississippi Municipal Retirement Systems
City of Greenwood

50 Year Cash Flow Projection
Based on Valuation Assumptions

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Gulfport**

Cash Flow Projection

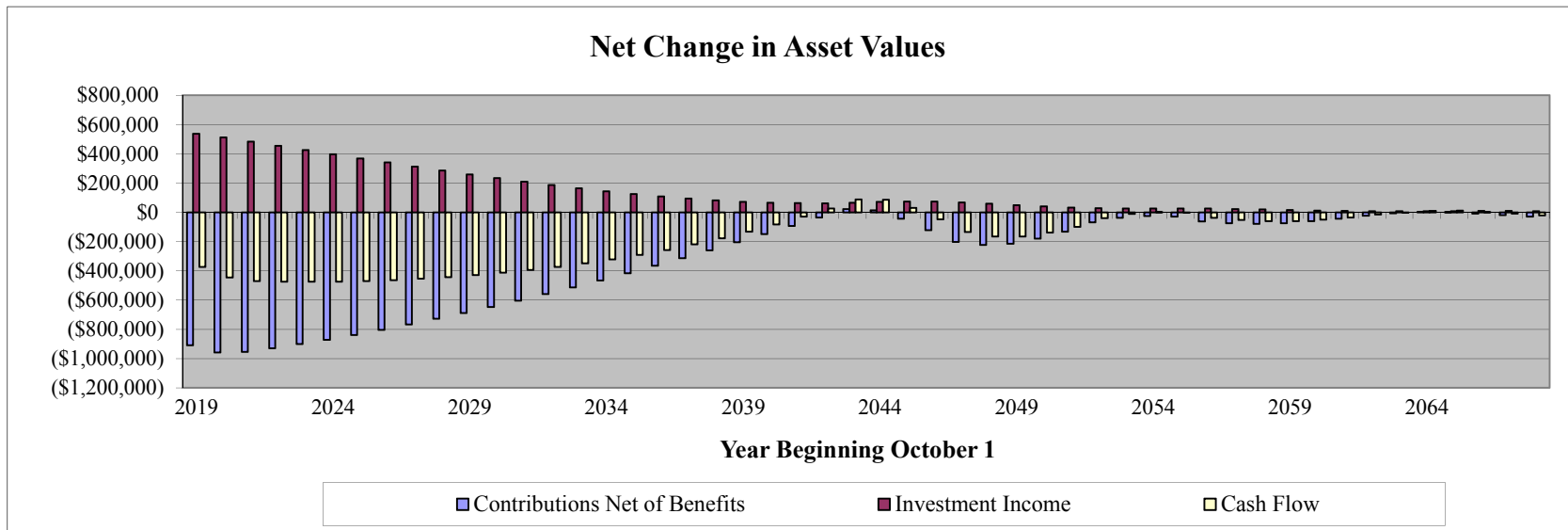
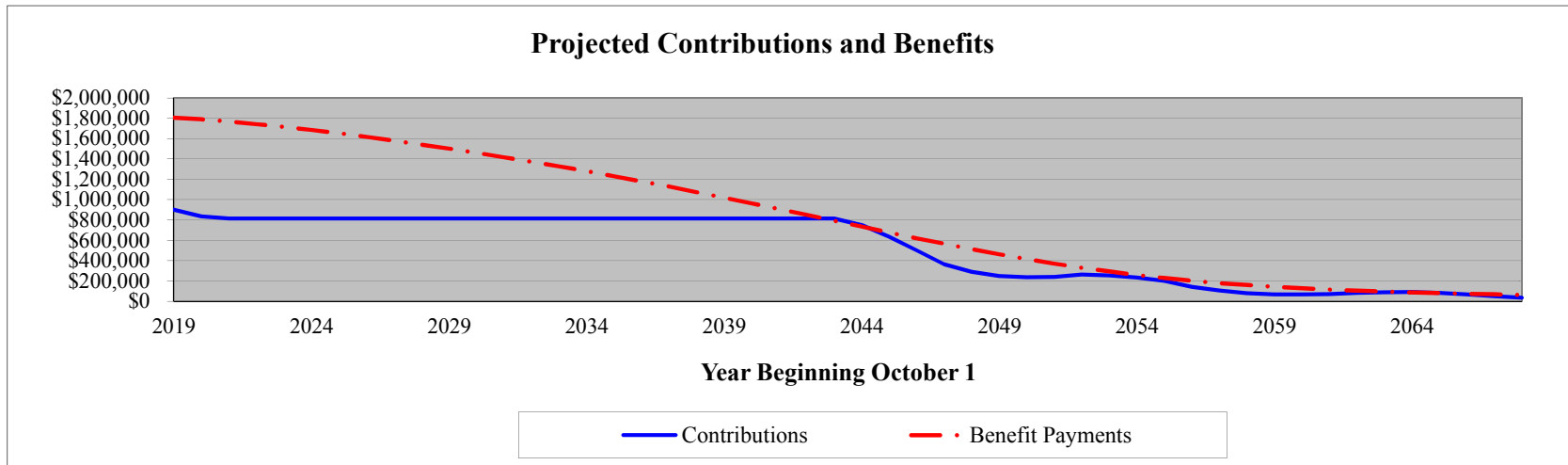
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$761,757,224	\$9,031,161	0.00107	\$898,820	\$1,808,209	\$536,460	(\$372,929)	\$8,658,232	2020
2020	761,757,224	8,658,232	0.00107	834,124	1,792,198	511,653	(446,421)	8,211,811	2021
2021	761,757,224	8,211,811	0.00107	815,080	1,770,033	483,848	(471,105)	7,740,706	2022
2022	761,757,224	7,740,706	0.00107	815,080	1,744,634	455,186	(474,368)	7,266,338	2023
2023	761,757,224	7,266,338	0.00107	815,080	1,716,769	426,395	(475,294)	6,791,044	2024
2024	761,757,224	6,791,044	0.00107	815,080	1,687,017	397,605	(474,332)	6,316,712	2025
2025	761,757,224	6,316,712	0.00107	815,080	1,654,960	368,946	(470,934)	5,845,778	2026
2026	761,757,224	5,845,778	0.00107	815,080	1,619,732	340,597	(464,055)	5,381,723	2027
2027	761,757,224	5,381,723	0.00107	815,080	1,582,205	312,748	(454,377)	4,927,346	2028
2028	761,757,224	4,927,346	0.00107	815,080	1,543,341	285,546	(442,715)	4,484,631	2029
2033	761,757,224	2,875,334	0.00107	815,080	1,328,061	163,921	(349,060)	2,526,275	2034
2038	761,757,224	1,435,454	0.00107	815,080	1,075,282	81,708	(178,494)	1,256,960	2039
2043	761,757,224	1,036,865	0.00104	815,080	792,332	65,504	88,252	1,125,117	2044
2048	761,757,224	1,058,401	0.00067	289,685	513,589	59,259	(164,645)	893,756	2049
2053	761,757,224	450,458	0.00039	254,924	293,490	26,967	(11,599)	438,859	2054
2058	761,757,224	345,653	0.00021	79,983	159,841	19,146	(60,712)	284,941	2059
2063	761,757,224	125,603	0.00013	87,341	95,231	7,607	(283)	125,320	2064
2068	761,757,224	137,678	0.00008	33,853	62,376	7,727	(20,796)	116,882	2069



Mississippi Municipal Retirement Systems
City of Gulfport

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of Hattiesburg**

Cash Flow Projection

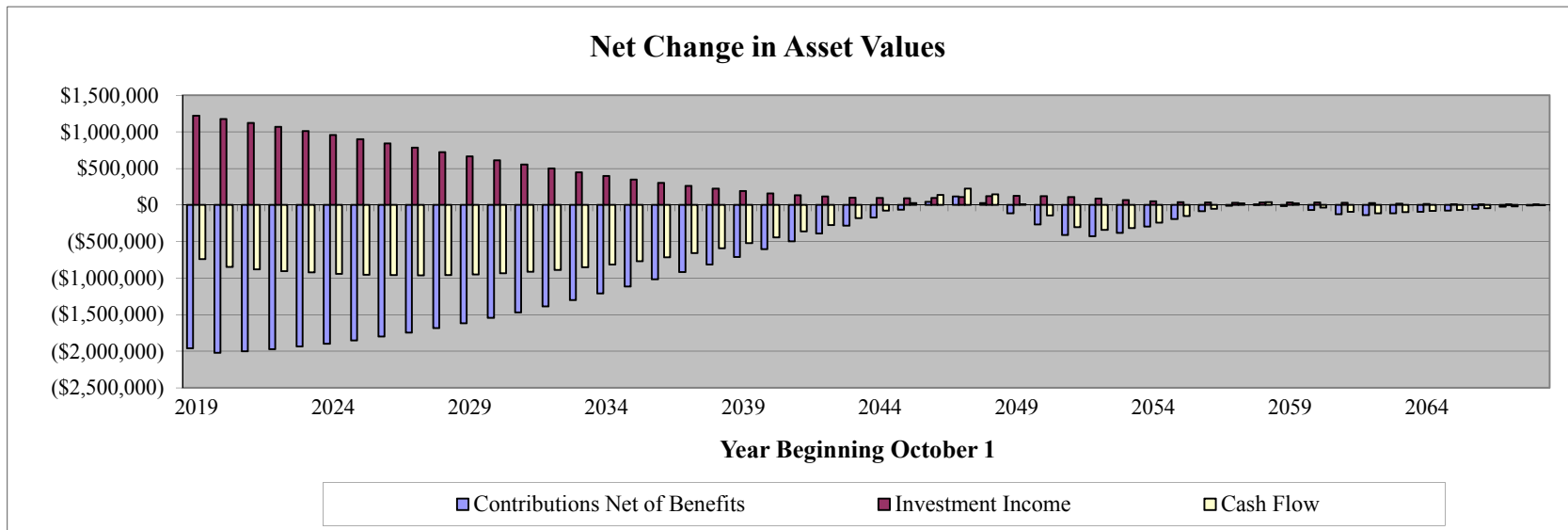
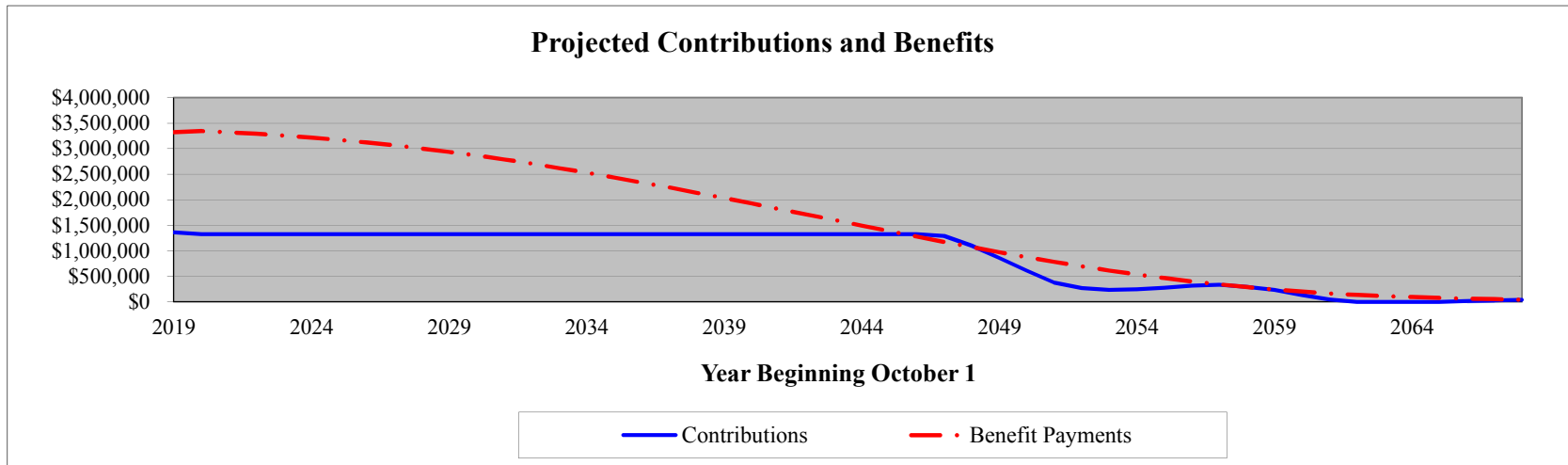
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$467,912,761	\$20,521,285	0.00283	\$1,362,084	\$3,323,336	\$1,222,220	(\$739,032)	\$19,782,253	2020
2020	467,912,761	19,782,253	0.00283	1,326,533	3,347,750	1,174,185	(847,032)	18,935,221	2021
2021	467,912,761	18,935,221	0.00283	1,324,193	3,324,256	1,121,897	(878,166)	18,057,055	2022
2022	467,912,761	18,057,055	0.00283	1,324,193	3,295,084	1,067,909	(902,982)	17,154,073	2023
2023	467,912,761	17,154,073	0.00283	1,324,193	3,259,829	1,012,558	(923,078)	16,230,995	2024
2024	467,912,761	16,230,995	0.00283	1,324,193	3,220,130	956,087	(939,850)	15,291,144	2025
2025	467,912,761	15,291,144	0.00283	1,324,193	3,175,125	898,731	(952,201)	14,338,944	2026
2026	467,912,761	14,338,944	0.00283	1,324,193	3,124,782	840,768	(959,821)	13,379,123	2027
2027	467,912,761	13,379,123	0.00283	1,324,193	3,068,828	782,502	(962,133)	12,416,990	2028
2028	467,912,761	12,416,990	0.00283	1,324,193	3,007,161	724,266	(958,702)	11,458,288	2029
2033	467,912,761	7,771,694	0.00283	1,324,193	2,623,145	445,754	(853,198)	6,918,496	2034
2038	467,912,761	3,967,157	0.00283	1,324,193	2,139,010	222,870	(591,947)	3,375,210	2039
2043	467,912,761	1,773,384	0.00283	1,324,193	1,605,291	102,185	(178,913)	1,594,471	2044
2048	467,912,761	1,907,166	0.00230	1,099,756	1,074,660	119,970	145,066	2,052,232	2049
2053	467,912,761	1,274,222	0.00131	232,045	614,512	67,868	(314,599)	959,623	2054
2058	467,912,761	536,368	0.00062	295,140	290,195	33,675	38,620	574,988	2059
2063	467,912,761	354,234	0.00025	0	114,810	18,606	(96,204)	258,030	2064
2068	467,912,761	41,653	0.00010	38,029	44,588	2,401	(4,158)	37,495	2069



**Mississippi Municipal Retirement Systems
City of Hattiesburg**

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



**Mississippi Municipal Retirement Systems
City of Jackson**



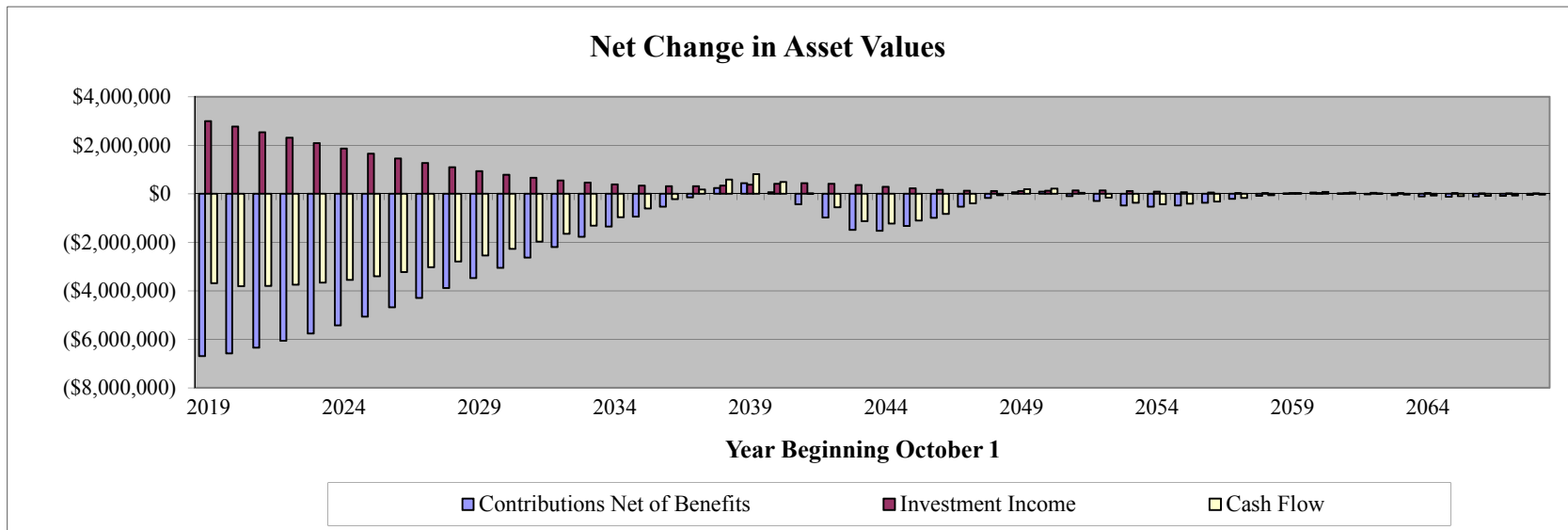
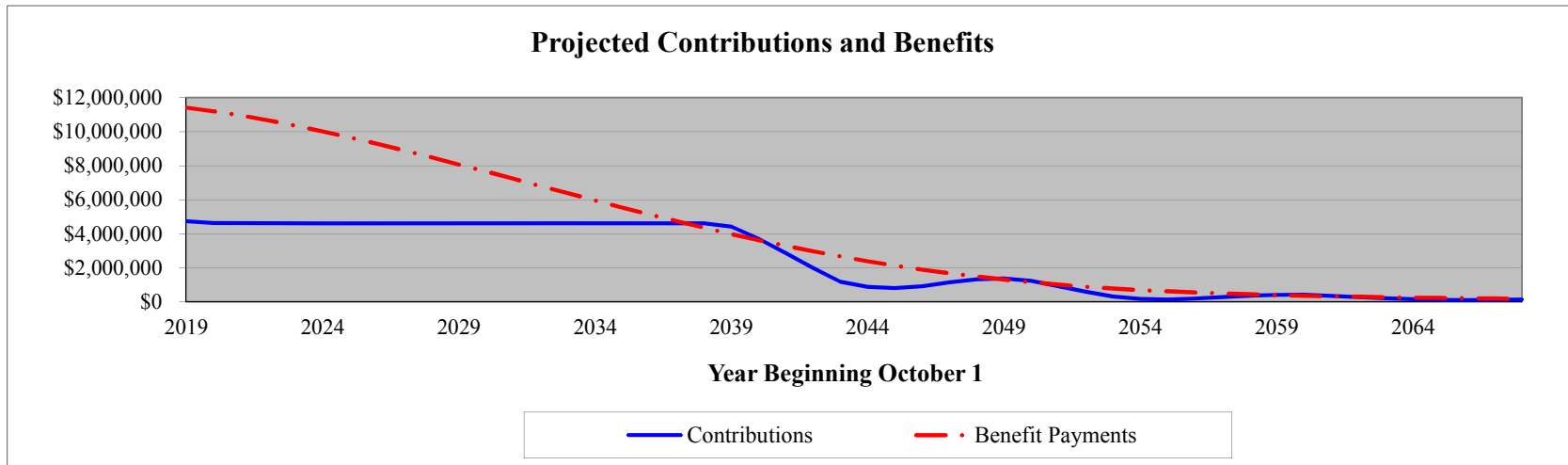
Cash Flow Projection
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments

Year Beginning <u>July 1</u>	Value of Assessed Property	MVA Balance <u>July 1</u>	Millage Rate	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	MVA Balance <u>June 30</u>	Year Ending <u>June 30</u>
2019	\$1,207,182,951	\$51,318,096	0.00382	\$4,735,274	\$11,422,536	\$3,001,571	(\$3,685,691)	\$47,632,405	2020
2020	1,207,182,951	47,632,405	0.00382	4,626,529	11,207,748	2,774,479	(3,806,740)	43,825,665	2021
2021	1,207,182,951	43,825,665	0.00382	4,611,439	10,956,924	2,543,813	(3,801,672)	40,023,993	2022
2022	1,207,182,951	40,023,993	0.00382	4,611,439	10,675,317	2,314,875	(3,749,003)	36,274,990	2023
2023	1,207,182,951	36,274,990	0.00382	4,611,439	10,365,967	2,090,083	(3,664,445)	32,610,545	2024
2024	1,207,182,951	32,610,545	0.00382	4,611,439	10,030,508	1,871,380	(3,547,689)	29,062,855	2025
2025	1,207,182,951	29,062,855	0.00382	4,611,439	9,672,877	1,660,656	(3,400,782)	25,662,073	2026
2026	1,207,182,951	25,662,073	0.00382	4,611,439	9,296,111	1,459,702	(3,224,970)	22,437,104	2027
2027	1,207,182,951	22,437,104	0.00382	4,611,439	8,903,389	1,270,228	(3,021,722)	19,415,382	2028
2028	1,207,182,951	19,415,382	0.00382	4,611,439	8,497,965	1,093,848	(2,792,678)	16,622,704	2029
2033	1,207,182,951	8,199,421	0.00382	4,611,439	6,387,293	457,809	(1,318,045)	6,881,377	2034
2038	1,207,182,951	5,267,404	0.00362	4,611,439	4,366,060	336,765	582,144	5,849,548	2039
2043	1,207,182,951	6,595,407	0.00222	1,186,999	2,676,417	366,374	(1,123,044)	5,472,364	2044
2048	1,207,182,951	1,917,204	0.00123	1,314,840	1,483,714	114,628	(54,246)	1,862,958	2049
2053	1,207,182,951	2,160,095	0.00065	303,938	787,508	120,123	(363,447)	1,796,648	2054
2058	1,207,182,951	466,206	0.00037	362,522	442,423	26,679	(53,222)	412,984	2059
2063	1,207,182,951	586,641	0.00023	210,177	274,452	34,687	(29,588)	557,053	2064
2068	1,207,182,951	239,241	0.00015	130,725	178,557	13,480	(34,352)	204,889	2069



**Mississippi Municipal Retirement Systems
City of Jackson**

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





**Mississippi Municipal Retirement Systems
City of Laurel**

Cash Flow Projection

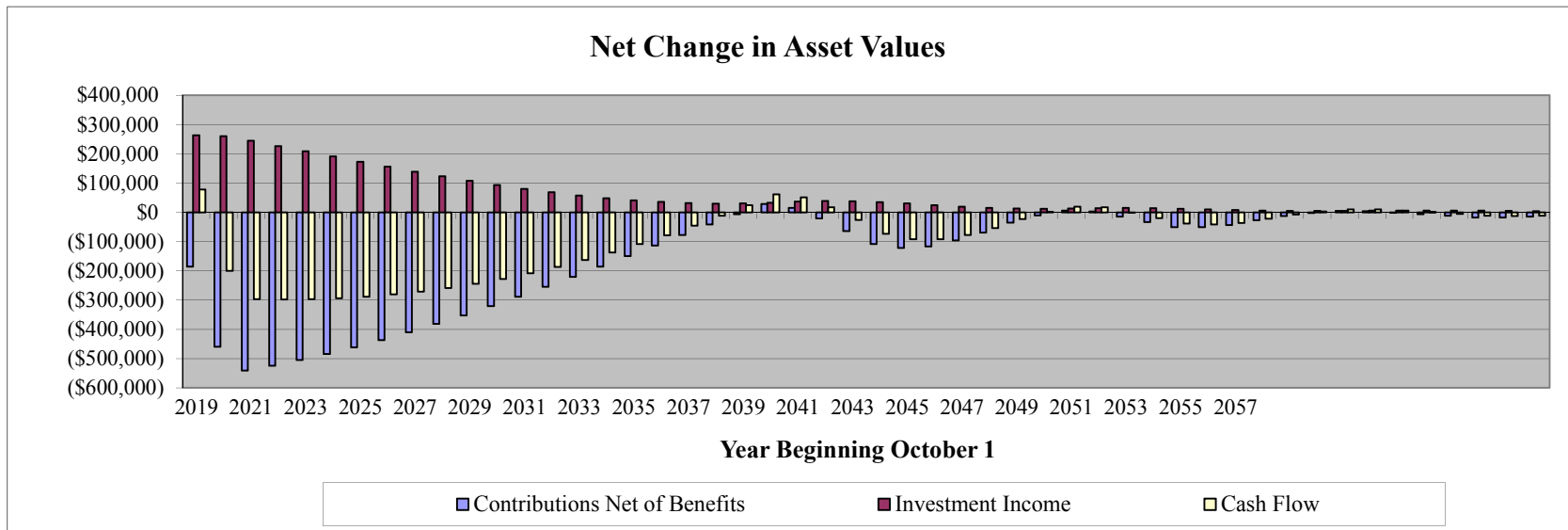
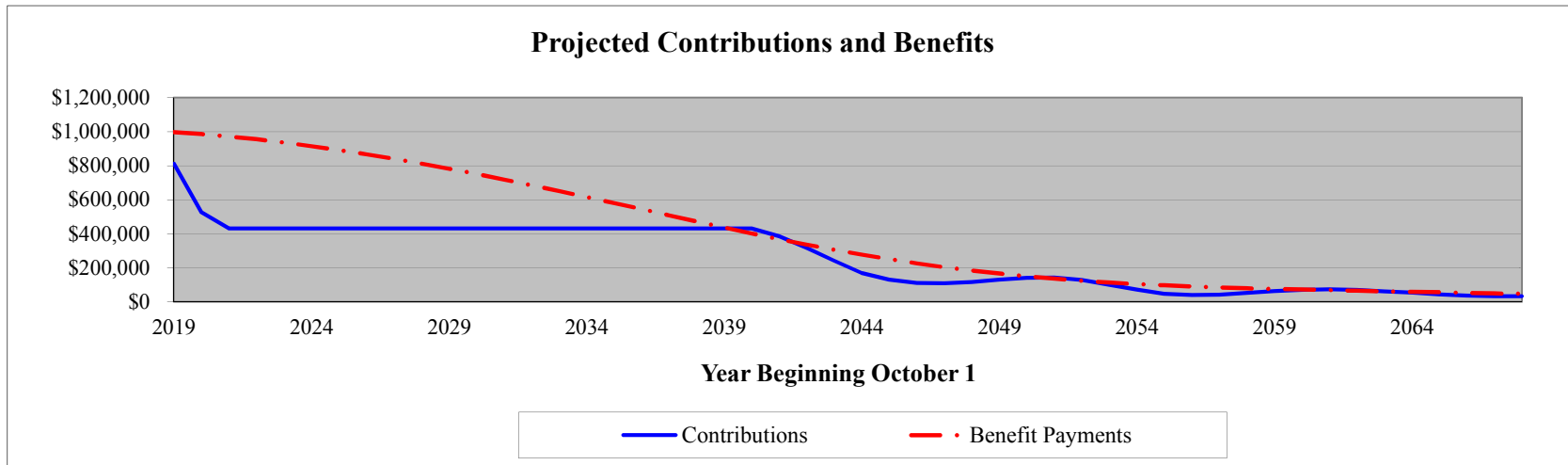
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$182,758,430	\$4,304,294	0.00236	\$812,848	\$998,564	\$263,303	\$77,587	\$4,381,881	2020
2020	182,758,430	4,381,881	0.00236	527,258	986,915	259,721	(199,936)	4,181,945	2021
2021	182,758,430	4,181,945	0.00236	431,310	972,595	244,713	(296,572)	3,885,374	2022
2022	182,758,430	3,885,374	0.00236	431,310	955,826	226,693	(297,823)	3,587,551	2023
2023	182,758,430	3,587,551	0.00236	431,310	936,809	208,664	(296,835)	3,290,716	2024
2024	182,758,430	3,290,716	0.00236	431,310	915,719	190,761	(293,648)	2,997,068	2025
2025	182,758,430	2,997,068	0.00236	431,310	892,700	173,117	(288,273)	2,708,795	2026
2026	182,758,430	2,708,795	0.00236	431,310	867,873	155,864	(280,699)	2,428,096	2027
2027	182,758,430	2,428,096	0.00236	431,310	841,335	139,137	(270,888)	2,157,208	2028
2028	182,758,430	2,157,208	0.00236	431,310	813,169	123,073	(258,786)	1,898,422	2029
2033	182,758,430	1,031,272	0.00236	431,310	652,012	57,662	(163,040)	868,232	2034
2038	182,758,430	498,668	0.00236	431,310	472,846	29,888	(11,648)	487,020	2039
2043	182,758,430	641,478	0.00168	242,277	306,868	38,105	(26,486)	614,993	2044
2048	182,758,430	279,589	0.00101	115,701	184,750	15,349	(53,700)	225,890	2049
2053	182,758,430	241,503	0.00063	99,678	114,520	14,637	(205)	241,298	2054
2058	182,758,430	105,627	0.00044	53,098	80,695	5,752	(21,845)	83,782	2059
2063	182,758,430	97,735	0.00034	62,014	62,467	6,095	5,642	103,377	2064
2068	182,758,430	72,581	0.00026	32,830	48,089	4,067	(11,192)	61,389	2069



Mississippi Municipal Retirement Systems
City of Laurel

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of McComb**

Cash Flow Projection

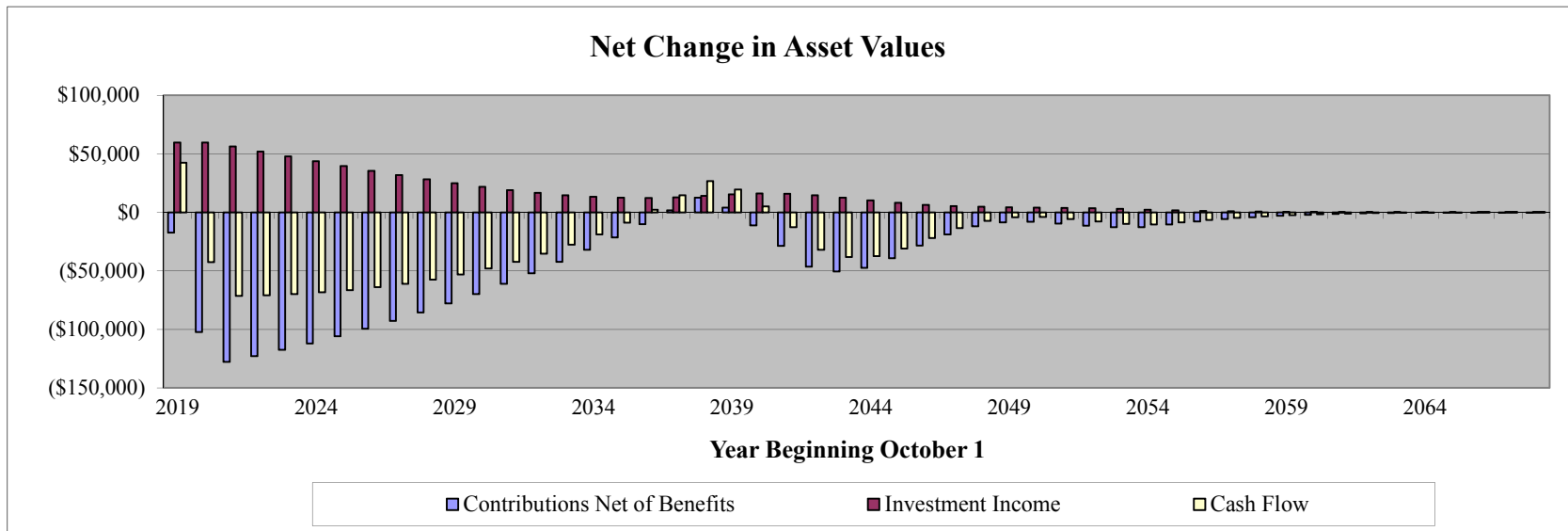
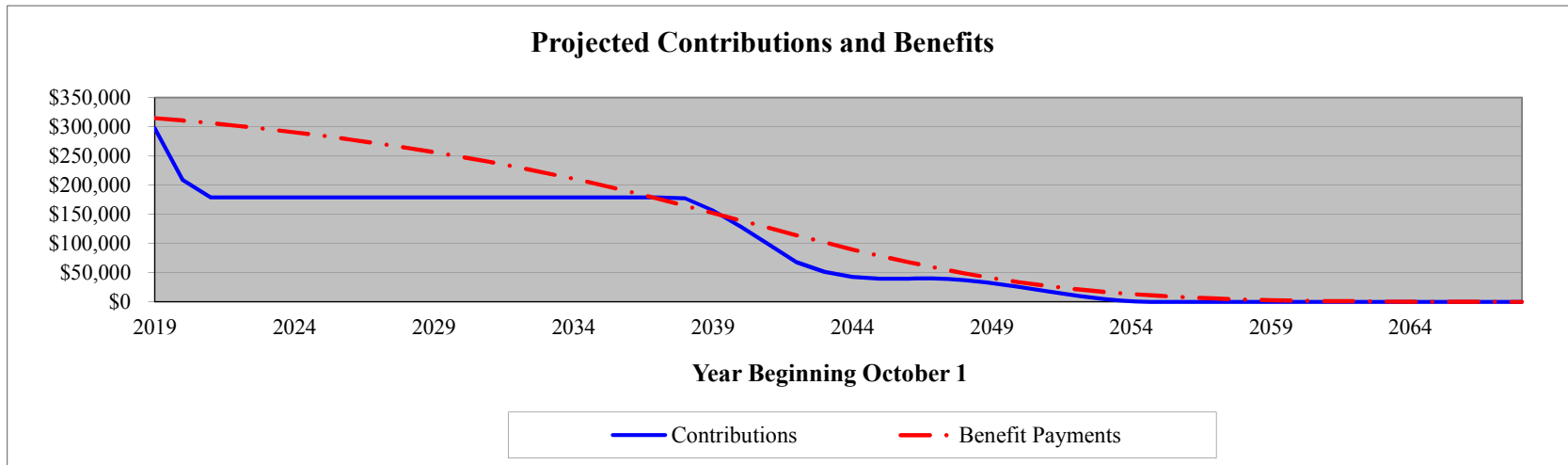
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$102,851,829	\$964,417	0.00174	\$297,655	\$315,058	\$59,740	\$42,337	\$1,006,754	2020
2020	102,851,829	1,006,754	0.00174	208,789	311,067	59,774	(42,504)	964,250	2021
2021	102,851,829	964,250	0.00174	178,962	306,646	56,336	(71,348)	892,902	2022
2022	102,851,829	892,902	0.00174	178,962	301,805	52,026	(70,817)	822,085	2023
2023	102,851,829	822,085	0.00174	178,962	296,560	47,761	(69,837)	752,248	2024
2024	102,851,829	752,248	0.00174	178,962	290,929	43,570	(68,397)	683,851	2025
2025	102,851,829	683,851	0.00174	178,962	284,920	39,480	(66,478)	617,372	2026
2026	102,851,829	617,372	0.00174	178,962	278,526	35,522	(64,042)	553,330	2027
2027	102,851,829	553,330	0.00174	178,962	271,732	31,728	(61,042)	492,288	2028
2028	102,851,829	492,288	0.00174	178,962	264,520	28,135	(57,423)	434,865	2029
2033	102,851,829	256,026	0.00174	178,962	221,330	14,698	(27,670)	228,356	2034
2038	102,851,829	217,320	0.00160	177,625	164,970	13,972	26,627	243,947	2039
2043	102,851,829	223,786	0.00099	51,634	102,138	12,432	(38,072)	185,714	2044
2048	102,851,829	81,834	0.00048	37,214	49,254	4,744	(7,296)	74,538	2049
2053	102,851,829	52,755	0.00017	4,713	17,363	2,908	(9,742)	43,013	2054
2058	102,851,829	12,742	0.00004	0	4,114	670	(3,444)	9,298	2059
2063	102,851,829	3,463	0.00001	0	584	198	(386)	3,076	2064
2068	102,851,829	2,982	0.00000	0	42	185	143	3,125	2069



**Mississippi Municipal Retirement Systems
City of McComb**

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





**Mississippi Municipal Retirement Systems
City of Meridian**

Cash Flow Projection

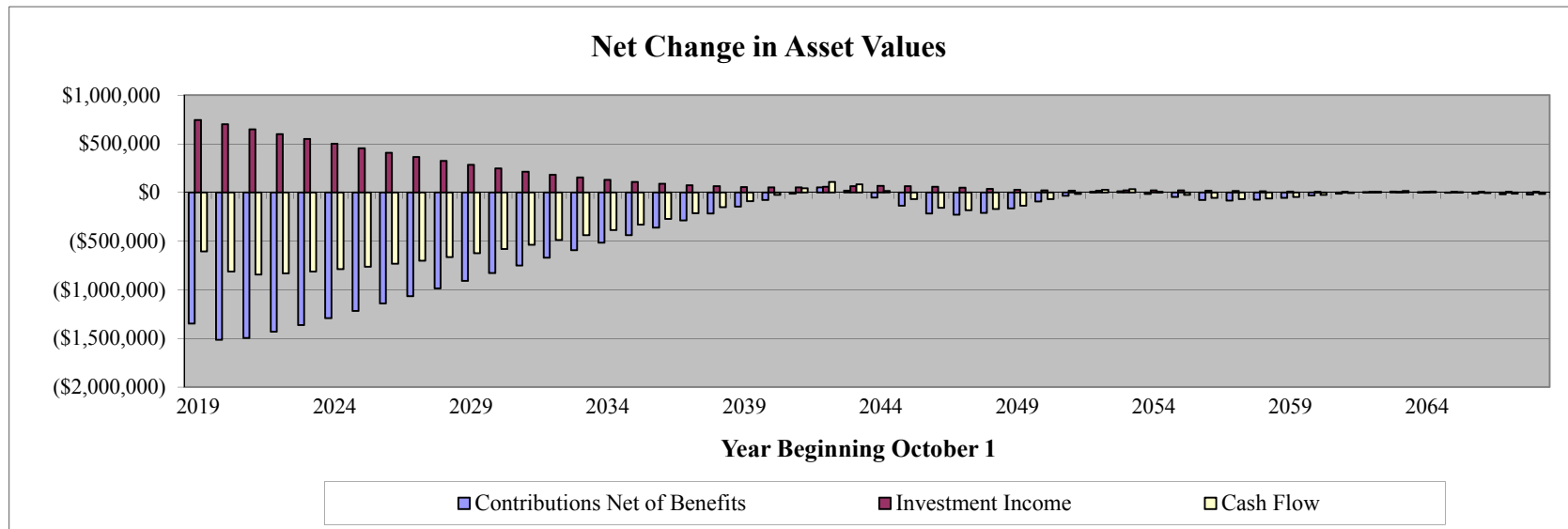
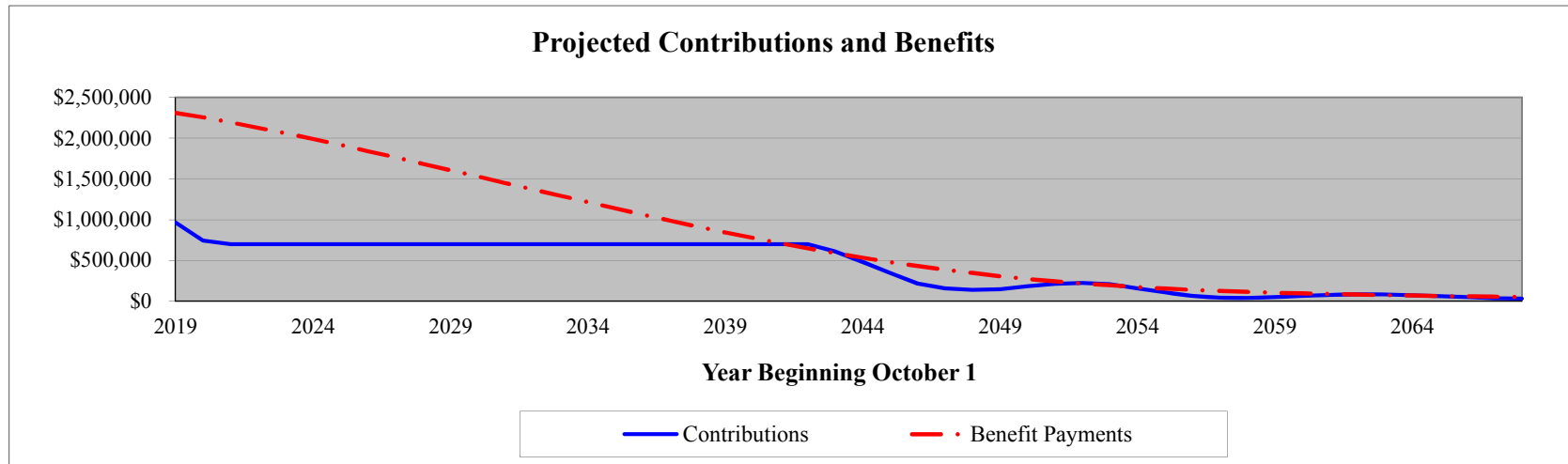
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$347,111,909	\$12,554,249	0.00202	\$963,642	\$2,312,216	\$743,136	(\$605,438)	\$11,948,811	2020
2020	347,111,909	11,948,811	0.00202	742,819	2,256,563	700,213	(813,531)	11,135,280	2021
2021	347,111,909	11,135,280	0.00202	701,166	2,195,765	649,957	(844,642)	10,290,638	2022
2022	347,111,909	10,290,638	0.00202	701,166	2,130,825	599,165	(830,494)	9,460,144	2023
2023	347,111,909	9,460,144	0.00202	701,166	2,062,524	549,361	(811,997)	8,648,146	2024
2024	347,111,909	8,648,146	0.00202	701,166	1,991,469	500,798	(789,505)	7,858,642	2025
2025	347,111,909	7,858,642	0.00202	701,166	1,918,137	453,711	(763,260)	7,095,382	2026
2026	347,111,909	7,095,382	0.00202	701,166	1,842,933	408,322	(733,445)	6,361,937	2027
2027	347,111,909	6,361,937	0.00202	701,166	1,766,219	364,843	(700,210)	5,661,727	2028
2028	347,111,909	5,661,727	0.00202	701,166	1,688,340	323,476	(663,698)	4,998,029	2029
2033	347,111,909	2,767,391	0.00202	701,166	1,294,200	154,710	(438,324)	2,329,067	2034
2038	347,111,909	1,125,653	0.00202	701,166	917,193	63,705	(152,322)	973,332	2039
2043	347,111,909	1,011,462	0.00170	609,990	590,201	63,825	83,614	1,095,077	2044
2048	347,111,909	702,483	0.00100	137,142	346,017	37,477	(171,398)	531,085	2049
2053	347,111,909	338,443	0.00056	207,041	194,822	21,529	33,748	372,191	2054
2058	347,111,909	229,404	0.00033	40,516	115,269	12,037	(62,716)	166,688	2059
2063	347,111,909	93,297	0.00022	83,458	75,735	6,069	13,792	107,088	2064
2068	347,111,909	99,719	0.00015	31,465	52,956	5,571	(15,920)	83,799	2069



Mississippi Municipal Retirement Systems
City of Meridian

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of Natchez**

Cash Flow Projection

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

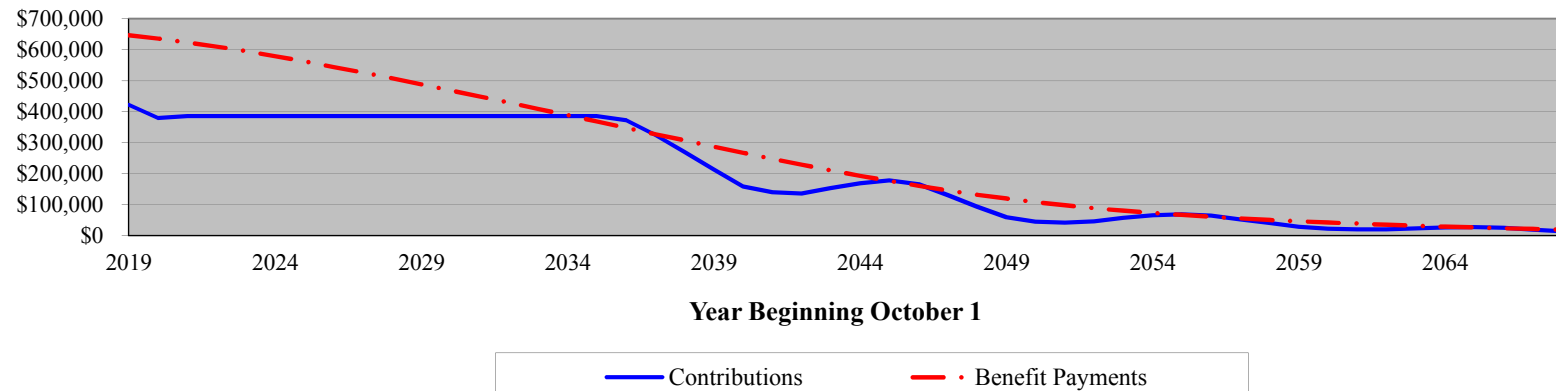
<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$128,903,757	\$1,841,771	0.00299	\$422,192	\$646,987	\$108,192	(\$116,603)	\$1,725,168	2020
2020	128,903,757	1,725,168	0.00299	379,944	636,680	99,922	(156,814)	1,568,354	2021
2021	128,903,757	1,568,354	0.00299	385,422	624,523	90,663	(148,438)	1,419,916	2022
2022	128,903,757	1,419,916	0.00299	385,422	610,781	81,809	(143,550)	1,276,366	2023
2023	128,903,757	1,276,366	0.00299	385,422	595,728	73,300	(137,006)	1,139,360	2024
2024	128,903,757	1,139,360	0.00299	385,422	579,620	65,233	(128,965)	1,010,396	2025
2025	128,903,757	1,010,396	0.00299	385,422	562,652	57,695	(119,535)	890,860	2026
2026	128,903,757	890,860	0.00299	385,422	544,976	50,768	(108,786)	782,075	2027
2027	128,903,757	782,075	0.00299	385,422	526,716	44,531	(96,763)	685,311	2028
2028	128,903,757	685,311	0.00299	385,422	507,974	39,060	(83,492)	601,819	2029
2033	128,903,757	425,633	0.00299	385,422	409,445	25,863	1,840	427,473	2034
2038	128,903,757	584,048	0.00239	270,338	307,510	35,359	(1,813)	582,235	2039
2043	128,903,757	308,710	0.00164	153,587	210,812	17,533	(39,692)	269,017	2044
2048	128,903,757	304,984	0.00103	93,988	132,721	17,869	(20,864)	284,119	2049
2053	128,903,757	107,316	0.00063	57,489	81,125	5,980	(17,656)	89,660	2054
2058	128,903,757	106,331	0.00040	40,457	51,236	6,314	(4,465)	101,866	2059
2063	128,903,757	46,481	0.00025	23,519	32,518	2,628	(6,371)	40,109	2064
2068	128,903,757	46,496	0.00015	13,625	19,447	2,727	(3,095)	43,400	2069



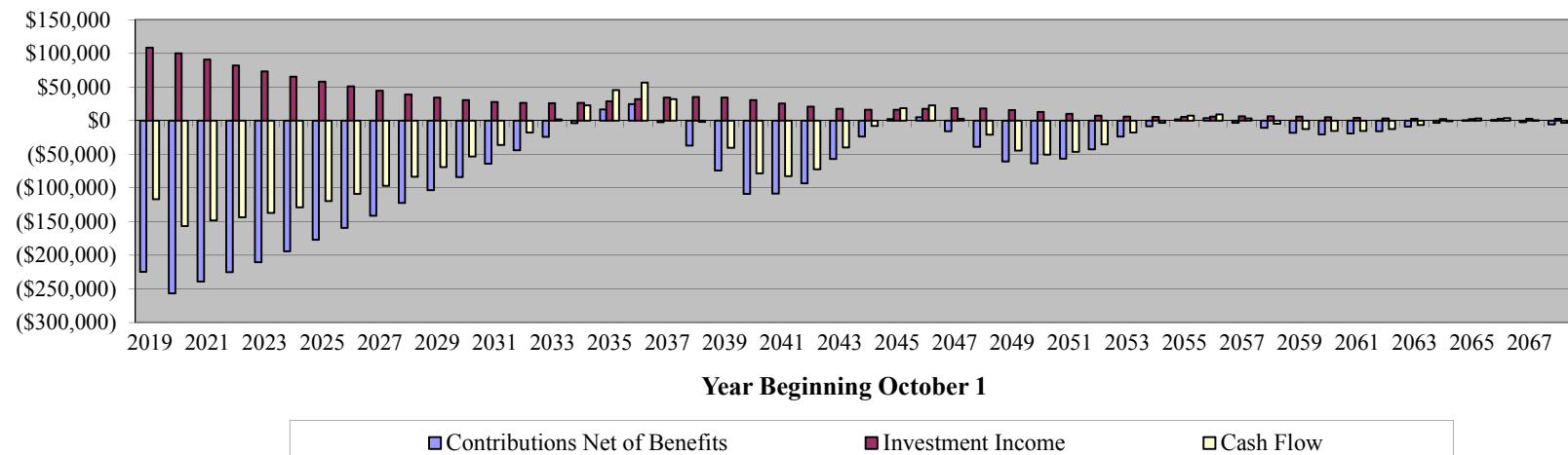
**Mississippi Municipal Retirement Systems
City of Natchez**

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

Projected Contributions and Benefits



Net Change in Asset Values





**Mississippi Municipal Retirement Systems
City of Pascagoula**

Cash Flow Projection

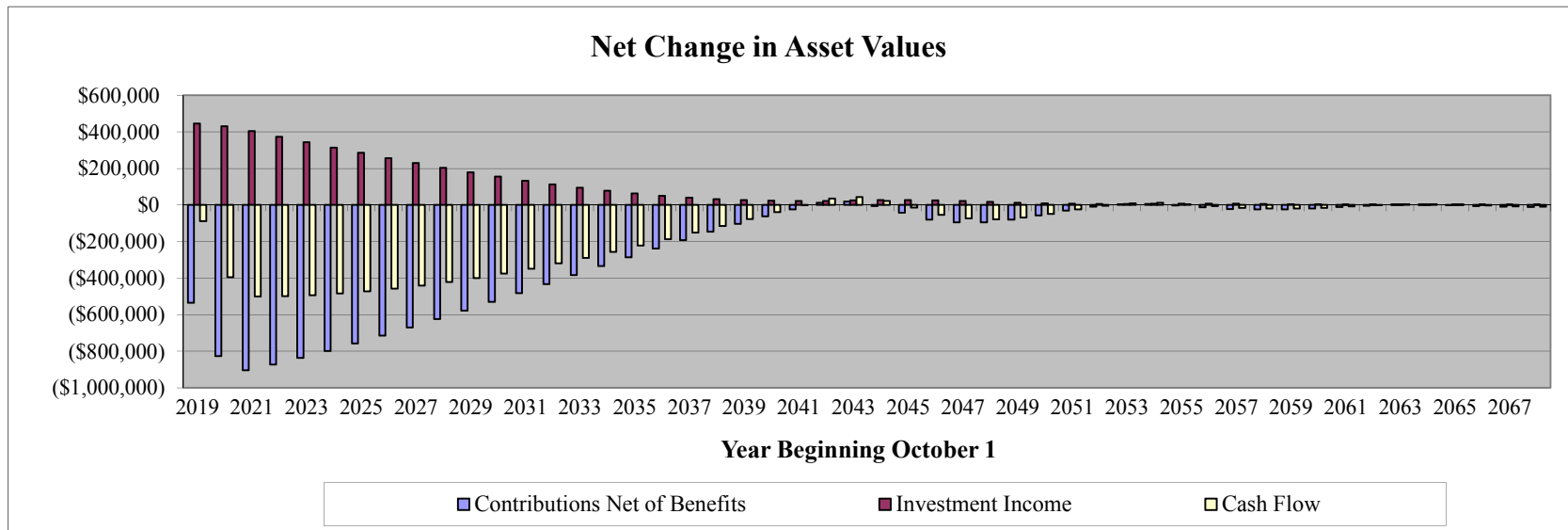
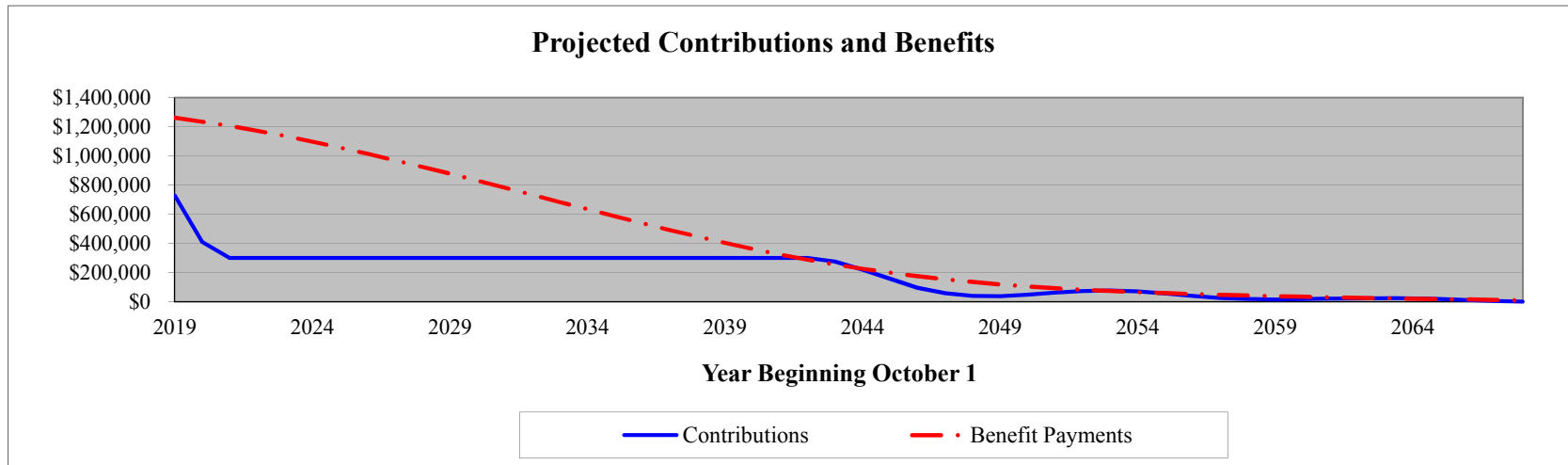
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$245,159,735	\$7,392,343	0.00123	\$728,544	\$1,262,949	\$445,574	(\$88,831)	\$7,303,512	2020
2020	245,159,735	7,303,512	0.00123	410,030	1,236,012	431,049	(394,933)	6,908,579	2021
2021	245,159,735	6,908,579	0.00123	301,546	1,206,145	403,946	(500,653)	6,407,926	2022
2022	245,159,735	6,407,926	0.00123	301,546	1,173,459	373,661	(498,252)	5,909,674	2023
2023	245,159,735	5,909,674	0.00123	301,546	1,138,102	343,608	(492,948)	5,416,726	2024
2024	245,159,735	5,416,726	0.00123	301,546	1,099,569	313,985	(484,038)	4,932,688	2025
2025	245,159,735	4,932,688	0.00123	301,546	1,058,798	284,988	(472,264)	4,460,424	2026
2026	245,159,735	4,460,424	0.00123	301,546	1,016,141	256,784	(457,811)	4,002,613	2027
2027	245,159,735	4,002,613	0.00123	301,546	971,874	229,533	(440,795)	3,561,818	2028
2028	245,159,735	3,561,818	0.00123	301,546	926,245	203,388	(421,311)	3,140,507	2029
2033	245,159,735	1,697,591	0.00123	301,546	684,877	94,302	(289,029)	1,408,562	2034
2038	245,159,735	591,355	0.00123	301,546	447,992	32,453	(113,993)	477,362	2039
2043	245,159,735	394,815	0.00105	275,223	256,645	25,248	43,826	438,641	2044
2048	245,159,735	318,273	0.00055	41,316	136,021	16,977	(77,728)	240,545	2049
2053	245,159,735	96,053	0.00030	77,443	74,295	6,100	9,248	105,301	2054
2058	245,159,735	99,928	0.00018	19,166	43,959	5,482	(19,311)	80,616	2059
2063	245,159,735	36,754	0.00010	25,801	24,864	2,326	3,263	40,018	2064
2068	245,159,735	34,853	0.00005	1,379	11,792	1,858	(8,555)	26,298	2069



**Mississippi Municipal Retirement Systems
City of Pascagoula**

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





**Mississippi Municipal Retirement Systems
City of Tupelo**

Cash Flow Projection

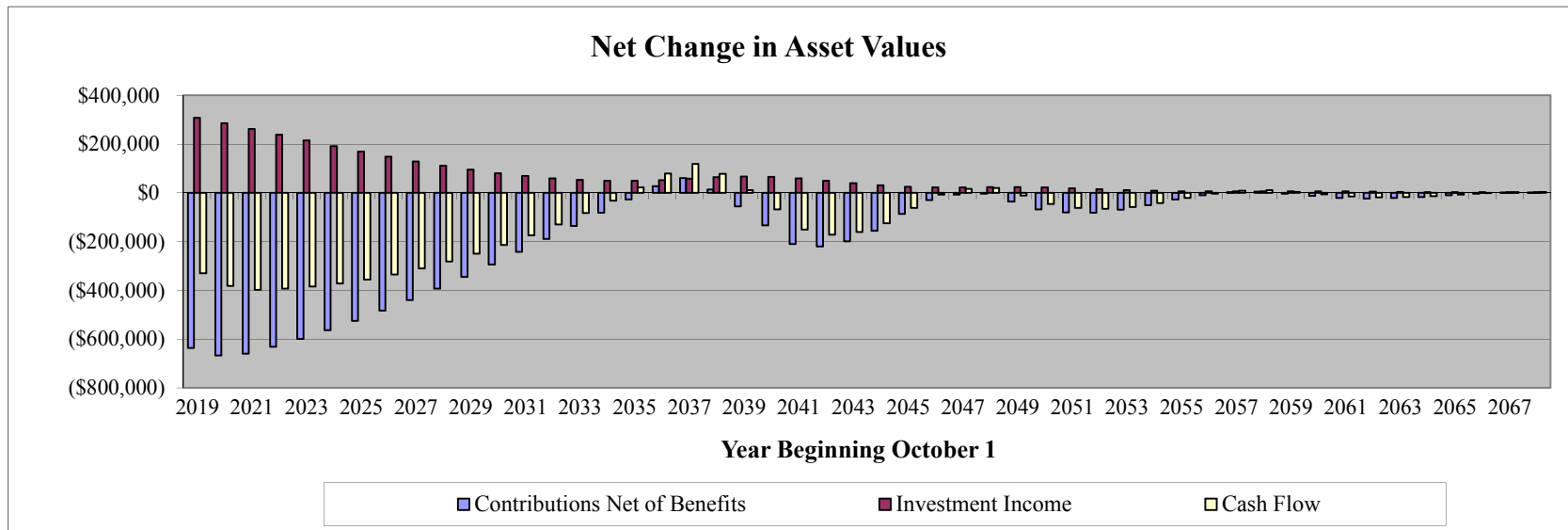
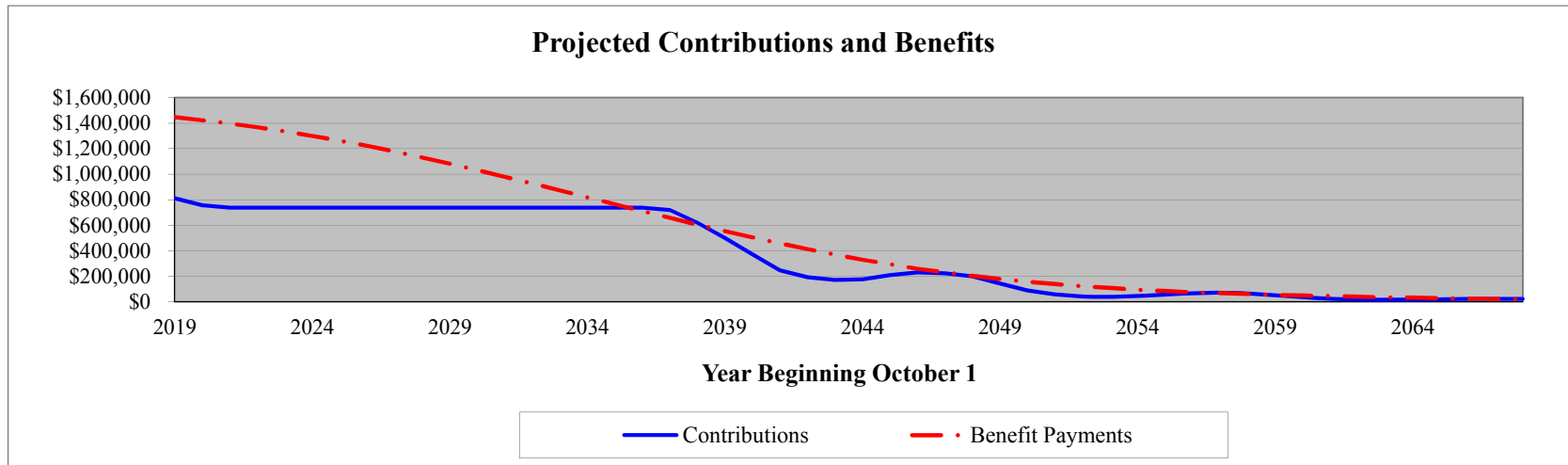
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$505,969,659	\$5,229,766	0.00146	\$811,094	\$1,448,156	\$307,254	(\$329,808)	\$4,899,959	2020
2020	505,969,659	4,899,959	0.00146	757,690	1,425,162	285,705	(381,767)	4,518,192	2021
2021	505,969,659	4,518,192	0.00146	738,716	1,399,156	262,061	(398,379)	4,119,813	2022
2022	505,969,659	4,119,813	0.00146	738,716	1,370,029	238,059	(393,254)	3,726,559	2023
2023	505,969,659	3,726,559	0.00146	738,716	1,337,739	214,474	(384,549)	3,342,010	2024
2024	505,969,659	3,342,010	0.00146	738,716	1,302,312	191,530	(372,066)	2,969,943	2025
2025	505,969,659	2,969,943	0.00146	738,716	1,263,843	169,460	(355,667)	2,614,277	2026
2026	505,969,659	2,614,277	0.00146	738,716	1,222,492	148,503	(335,273)	2,279,004	2027
2027	505,969,659	2,279,004	0.00146	738,716	1,178,469	128,904	(310,849)	1,968,154	2028
2028	505,969,659	1,968,154	0.00146	738,716	1,132,027	110,905	(282,406)	1,685,748	2029
2033	505,969,659	918,202	0.00146	738,716	874,739	53,201	(82,822)	835,380	2034
2038	505,969,659	1,022,969	0.00120	619,674	605,875	64,360	78,159	1,101,129	2039
2043	505,969,659	720,969	0.00073	171,263	370,536	38,928	(160,345)	560,624	2044
2048	505,969,659	381,872	0.00040	199,303	203,617	23,734	19,420	401,292	2049
2053	505,969,659	216,224	0.00021	38,431	108,079	11,371	(58,277)	157,948	2054
2058	505,969,659	98,503	0.00012	65,230	60,977	6,287	10,540	109,043	2059
2063	505,969,659	73,438	0.00007	14,712	36,247	3,927	(17,608)	55,830	2064
2068	505,969,659	35,900	0.00004	21,804	20,265	2,291	3,830	39,730	2069



Mississippi Municipal Retirement Systems
City of Tupelo

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of Vicksburg**

Cash Flow Projection

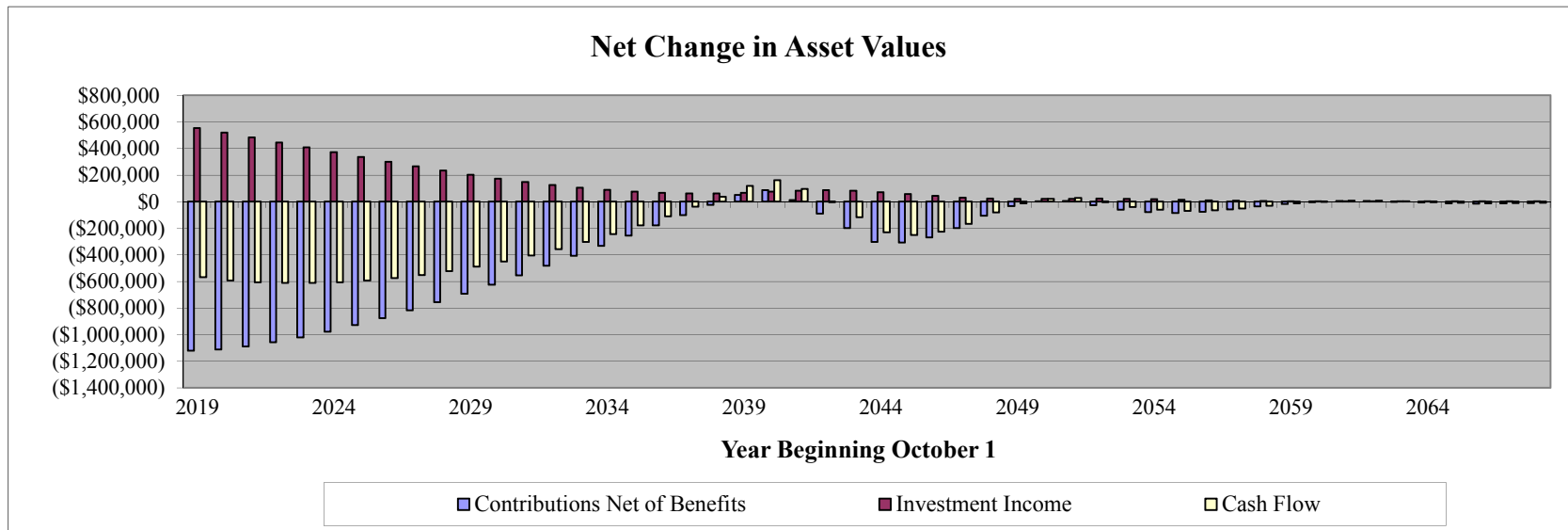
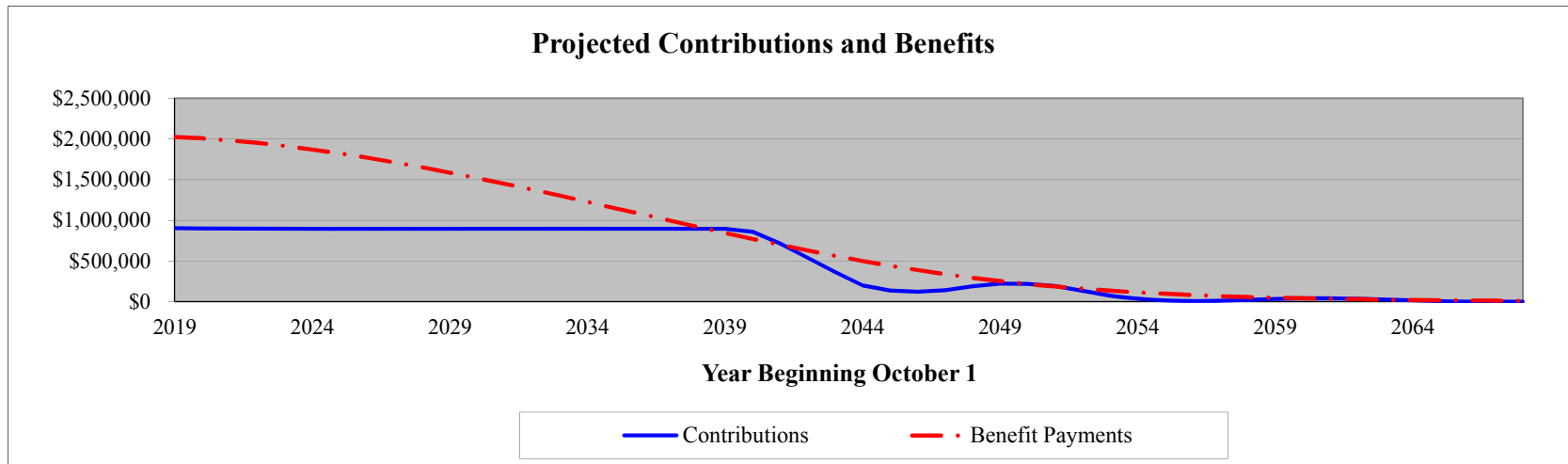
No Assumed Growth in Assessed Property, Certified Millage Rates, Assume 6.25% on Investments)

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$322,506,308	\$9,416,170	0.00278	\$903,055	\$2,024,538	\$553,995	(\$567,488)	\$8,848,682	2020
2020	322,506,308	8,848,682	0.00278	897,374	2,008,317	518,852	(592,091)	8,256,592	2021
2021	322,506,308	8,256,592	0.00278	896,568	1,984,663	482,549	(605,546)	7,651,046	2022
2022	322,506,308	7,651,046	0.00278	896,568	1,953,983	445,647	(611,768)	7,039,278	2023
2023	322,506,308	7,039,278	0.00278	896,568	1,916,757	408,557	(611,632)	6,427,646	2024
2024	322,506,308	6,427,646	0.00278	896,568	1,873,547	371,660	(605,319)	5,822,327	2025
2025	322,506,308	5,822,327	0.00278	896,568	1,824,958	335,323	(593,067)	5,229,260	2026
2026	322,506,308	5,229,260	0.00278	896,568	1,771,596	299,899	(575,129)	4,654,131	2027
2027	322,506,308	4,654,131	0.00278	896,568	1,714,017	265,725	(551,724)	4,102,407	2028
2028	322,506,308	4,102,407	0.00278	896,568	1,652,697	233,129	(523,000)	3,579,407	2029
2033	322,506,308	1,878,653	0.00278	896,568	1,303,446	104,894	(301,984)	1,576,668	2034
2038	322,506,308	1,004,579	0.00278	896,568	920,948	62,036	37,656	1,042,235	2039
2043	322,506,308	1,414,417	0.00175	365,177	564,367	82,271	(116,919)	1,297,498	2044
2048	322,506,308	422,508	0.00091	189,358	294,241	23,179	(81,704)	340,804	2049
2053	322,506,308	374,748	0.00042	73,709	134,652	21,546	(39,397)	335,351	2054
2058	322,506,308	88,357	0.00018	21,911	58,267	4,403	(31,953)	56,404	2059
2063	322,506,308	58,404	0.00008	24,239	24,929	3,629	2,939	61,343	2064
2068	322,506,308	27,608	0.00003	0	9,631	1,429	(8,202)	19,406	2069



Mississippi Municipal Retirement Systems
City of Vicksburg

50 Year Cash Flow Projection
Based on Valuation Assumptions





**Mississippi Municipal Retirement Systems
City of Yazoo City**

Cash Flow Projection

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

<u>Year Beginning July 1</u>	<u>Value of Assessed Property</u>	<u>MVA Balance July 1</u>	<u>Millage Rate</u>	<u>Contributions</u>	<u>Benefit Payments</u>	<u>Investment Income</u>	<u>Cash Flow</u>	<u>MVA Balance June 30</u>	<u>Year Ending June 30</u>
2019	\$52,021,220	\$377,084	0.00346	\$184,491	\$233,444	\$22,061	(\$26,892)	\$350,192	2020
2020	52,021,220	350,192	0.00346	181,268	230,554	20,370	(28,916)	321,276	2021
2021	52,021,220	321,276	0.00346	179,785	227,172	18,621	(28,766)	292,510	2022
2022	52,021,220	292,510	0.00346	179,785	223,274	16,943	(26,546)	265,965	2023
2023	52,021,220	265,965	0.00346	179,785	218,843	15,421	(23,637)	242,327	2024
2024	52,021,220	242,327	0.00346	179,785	213,871	14,096	(19,990)	222,337	2025
2025	52,021,220	222,337	0.00346	179,785	208,354	13,017	(15,552)	206,785	2026
2026	52,021,220	206,785	0.00346	179,785	202,293	12,231	(10,277)	196,508	2027
2027	52,021,220	196,508	0.00346	179,785	195,698	11,792	(4,121)	192,387	2028
2028	52,021,220	192,387	0.00346	179,785	188,586	11,753	2,952	195,339	2029
2033	52,021,220	265,179	0.00283	131,612	147,190	16,094	516	265,695	2034
2038	52,021,220	152,534	0.00197	76,940	102,222	8,755	(16,527)	136,007	2039
2043	52,021,220	138,137	0.00119	38,744	61,687	7,927	(15,016)	123,122	2044
2048	52,021,220	52,278	0.00059	18,566	30,618	2,896	(9,156)	43,121	2049
2053	52,021,220	30,280	0.00022	6,454	11,520	1,737	(3,329)	26,951	2054
2058	52,021,220	10,225	0.00005	0	2,815	552	(2,263)	7,962	2059
2063	52,021,220	4,515	0.00001	0	370	271	(99)	4,416	2064
2068	52,021,220	5,069	0.00000	0	22	316	294	5,362	2069



**Mississippi Municipal Retirement Systems
City of Yazoo City**

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

