

**MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM**  
GASB STATEMENT NO. 68 EMPLOYER REPORTING  
ACCOUNTING SCHEDULES  
JUNE 30, 2014

April 22, 2015

Board of Trustees  
Missouri State Employees'  
Retirement System  
907 Wildwood Drive  
Jefferson City, Missouri 65102

Dear Board Members:

The accounting schedules submitted in this report are required under the Governmental Accounting Standards Board (GASB) Statement No. 68 "Employer Reporting for Pension Plans" for the contributing entities of the Missouri State Employees' Retirement System (MOSERS).

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 68. These calculations have been made on a basis that is consistent with our understanding of this Statement.

Our calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 68 may produce significantly different results. This report may be provided to parties other than MOSERS only in its entirety and only with the permission of MOSERS.

This report is based upon information, furnished to us by MOSERS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency but was not otherwise audited.

This report complements the actuarial valuation report and the GASB Statement No. 67 report that were provided to MOSERS and should be considered in conjunction with those reports. Please see the actuarial valuation report as June 30, 2014 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Missouri State Employees' Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

The signing actuaries are independent of the plan sponsor.

The Board of Trustees  
April 22, 2015

David T. Kausch and Brad Lee Armstrong are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,



David T. Kausch, FSA, MAAA



Brad Lee Armstrong, ASA, MAAA

DTK/BLA:sc

Auditor's Note – This information is subject to the System's auditor's review. Please let us know if the System's auditor recommends any changes.

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**SECTION A**  
EXECUTIVE SUMMARY

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## EXECUTIVE SUMMARY

### AS OF JUNE 30, 2014

	<b>MOSERS</b>	<b>JUDGES</b>		
Actuarial Valuation Date	June 30, 2014	June 30, 2014		
Measurement Date of the Net Pension Liability	June 30, 2014	June 30, 2014		
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2014	June 30, 2014		
<b>Membership</b>				
Number of				
- Retirees and Beneficiaries	41,000	511		
- Inactive, Nonretired Members	20,129	25		
- Active Members	50,621	405		
- Total	111,750	941		
Covered Payroll	\$ 1,902,719,928	\$ 49,587,936		
<b>Net Pension Liability</b>				
Total Pension Liability	\$ 11,494,571,835	\$ 462,336,255		
Plan Fiduciary Net Position	9,136,781,826	132,645,657		
Net Pension Liability	\$ 2,357,790,009	\$ 329,690,598		
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	79.49%	28.69%		
Net Pension Liability as a Percentage of Covered Payroll	123.92%	664.86%		
<b>Development of the Single Discount Rate</b>				
Single Discount Rate	8.00%	8.00%		
Long-Term Expected Rate of Investment Return	8.00%	8.00%		
Long-Term Municipal Bond Rate*	4.29%	4.29%		
Last year ending June 30 in the 2015 to 2114 projection period for which projected benefit payments are fully funded	2114	2114		
<b>Total Pension Expense</b>	<b>\$ 221,646,417</b>	<b>\$ 35,059,480</b>		
<b>Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses</b>				
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 9,187,307	\$ -	\$ 9,718,433	\$ -
Changes in assumptions	-	-	-	-
Net difference between projected and actual earnings on pension plan investments	-	687,473,293	-	9,997,258
<b>Total</b>	<b>\$ 9,187,307</b>	<b>\$ 687,473,293</b>	<b>\$ 9,718,433</b>	<b>\$ 9,997,258</b>

\*Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 26, 2014  
(i.e., the weekly rate closest to but not later than the Measurement Date).

## DISCUSSION

### Accounting Standard

For state and local government employers (as well as certain non-employers) that contribute to a defined benefit (DB) pension plan administered through a trust or equivalent arrangement, Governmental Accounting Standards Board (GASB) Statement No. 68 establishes standards for pension accounting and financial reporting. Under GASB Statement No. 68, the employer must account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information is not included in this report if it is not actuarial in nature, such as the notes to the financial statements regarding accounting policies and investments. As a result, the retirement system and/or plan sponsor is responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

### Financial Statements

GASB Statement No. 68 requires state and local government employers that contribute to DB pension plans to recognize the net pension liability and the pension expense on their financial statements, along with the related deferred outflows of resources and deferred inflows of resources. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.



## Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to pensions.

In addition, GASB Statement No. 68 requires the notes of the financial statements for the employers to include certain additional information, including:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- for the current year, sources of changes in the net pension liability;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the Single Discount Rate;
- certain information about mortality assumptions and the dates of experience studies;
- the date of the valuation used to determine the total pension liability;
- information about changes of assumptions or other inputs and benefit terms;
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements;
- the total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes; and
- a description of the system that administers the pension plan.

## Required Supplementary Information

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

The tables may be built prospectively as the information becomes available.

## Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2014 and a measurement date of June 30, 2014.

## Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 8.00%; the municipal bond rate is 4.29% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 8.00%.

## Effective Date and Transition

GASB Statement No. 68 is effective for an employer's fiscal years beginning after June 15, 2014.

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## **SECTION B**

### **FINANCIAL STATEMENTS**

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Auditor's Note – This information is subject to the System's auditor's review. Please let us know if the System's auditor recommends any changes.

**PENSION EXPENSE UNDER GASB STATEMENT NO. 68**  
**FISCAL YEAR ENDED JUNE 30, 2014**

<b>A. Expense</b>	<b>MOSERS</b>	<b>JUDGES</b>
1. Service Cost	\$ 158,116,026	\$ 8,990,293
2. Interest on the Total Pension Liability	869,878,195	34,013,615
3. Current-Period Benefit Changes	-	-
4. Employee Contributions (made negative for addition here)	(14,025,328)	(294,810)
5. Projected Earnings on Plan Investments (made negative for addition here)	(625,818,376)	(8,898,178)
6. Pension Plan Administrative Expense	7,336,922	105,693
7. Other Changes in Plan Fiduciary Net Position*	(5,161,629)	-
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	3,188,930	3,642,181
9. Recognition of Outflow (Inflow) of Resources due to Assets*	(171,868,323)	(2,499,314)
<b>10. Total Pension Expense</b>	<b>\$ 221,646,417</b>	<b>\$ 35,059,480</b>

\* \$291,207,871 for MOSERS and \$4,195,049 for Judges of Swap and Security Lending Income was reclassified from "Other" in the GASB Statement No. 67 Report to "Pension Plan Net Investment Income" in this report.

**STATEMENT OF OUTFLOWS AND INFLOWS  
ARISING FROM CURRENT REPORTING PERIOD  
FISCAL YEAR ENDED JUNE 30, 2014**

<b>A. Outflows (Inflows) of Resources due to Liabilities</b>	<b>MOSERS</b>	<b>JUDGES</b>
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 12,376,237	\$ 13,360,614
2. Assumption Changes (gains) or losses	\$ -	\$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years }	3.8810	3.6683
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the Difference between expected and actual experience of the Total Pension Liability	\$ 3,188,930	\$ 3,642,181
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ -	\$ -
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 3,188,930	\$ 3,642,181
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the Difference between expected and actual experience of the Total Pension Liability	\$ 9,187,307	\$ 9,718,433
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 9,187,307	\$ 9,718,433
 <b>B. Outflows (Inflows) of Resources due to Assets</b>		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (859,341,616)	\$ (12,496,572)
2. Recognition period for Assets {in years }	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ (171,868,323)	\$ (2,499,314)
3. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (687,473,293)	\$ (9,997,258)

**STATEMENT OF OUTFLOWS AND INFLOWS  
ARISING FROM CURRENT AND PRIOR REPORTING PERIODS  
FISCAL YEAR ENDED JUNE 30**

**MOSERS**

**A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. due to Liabilities	\$ 3,188,930	\$ -	\$ 3,188,930
2. due to Assets	-	171,868,323	(171,868,323)
<b>3. Total</b>	<b>\$ 3,188,930</b>	<b>\$ 171,868,323</b>	<b>\$ (168,679,393)</b>

**B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 3,188,930	\$ -	\$ 3,188,930
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	-	171,868,323	(171,868,323)
<b>4. Total</b>	<b>\$ 3,188,930</b>	<b>\$ 171,868,323</b>	<b>\$ (168,679,393)</b>

**C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses**

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 9,187,307	\$ -	\$ 9,187,307
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	-	687,473,293	(687,473,293)
<b>4. Total</b>	<b>\$ 9,187,307</b>	<b>\$ 687,473,293</b>	<b>\$ (678,285,986)</b>

**D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses**

Year Ending June 30	Net Deferred Outflows of Resources
2015	\$ (168,679,393)
2016	(168,679,393)
2017	(169,058,876)
2018	(171,868,323)
2019	-
Thereafter	-
<b>Total</b>	<b>\$ (678,285,985)</b>

**STATEMENT OF OUTFLOWS AND INFLOWS  
ARISING FROM CURRENT AND PRIOR REPORTING PERIODS  
FISCAL YEAR ENDED JUNE 30  
JUDGES**

**A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. due to Liabilities	\$ 3,642,181	\$ -	\$ 3,642,181
2. due to Assets	-	2,499,314	(2,499,314)
<b>3. Total</b>	<b>\$ 3,642,181</b>	<b>\$ 2,499,314</b>	<b>\$ 1,142,867</b>

**B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense**

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 3,642,181	\$ -	\$ 3,642,181
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	-	2,499,314	(2,499,314)
<b>4. Total</b>	<b>\$ 3,642,181</b>	<b>\$ 2,499,314</b>	<b>\$ 1,142,867</b>

**C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses**

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 9,718,433	\$ -	\$ 9,718,433
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	-	9,997,258	(9,997,258)
<b>4. Total</b>	<b>\$ 9,718,433</b>	<b>\$ 9,997,258</b>	<b>\$ (278,825)</b>

**D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses**

Year Ending June 30	Net Deferred Outflows of Resources
2015	\$ 1,142,867
2016	1,142,867
2017	(65,245)
2018	(2,499,314)
2019	-
Thereafter	-
<b>Total</b>	<b>\$ (278,825)</b>

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
**CURRENT PERIOD**  
**FISCAL YEAR ENDED JUNE 30, 2014**

<b>A. Total pension liability</b>	<b>MOSERS</b>	<b>JUDGES</b>
1. Service Cost	\$ 158,116,026	\$ 8,990,293
2. Interest on the Total Pension Liability	869,878,195	34,013,615
3. Changes of benefit terms	0	0
4. Difference between expected and actual experience of the Total Pension Liability	12,376,237	13,360,614
5. Changes of assumptions	0	0
6. Benefit payments, including refunds of employee contributions	(680,436,107)	(29,406,625)
7. Net change in total pension liability	\$ 359,934,351	\$ 26,957,897
8. Total pension liability – beginning	11,134,637,484	435,378,358
9. Total pension liability – ending	<b>\$ 11,494,571,835</b>	<b>\$ 462,336,255</b>
<b>B. Plan fiduciary net position</b>		
1. Contributions – employer	\$ 326,370,336	\$ 29,264,877
2. Contributions – employee	14,025,328	294,810
3. Net investment income*	1,485,159,992	21,394,750
4. Benefit payments, including refunds of employee contributions	(680,436,107)	(29,406,625)
5. Pension Plan Administrative Expense	(7,336,922)	(105,693)
6. Other*	5,161,629	-
7. Net change in plan fiduciary net position	\$ 1,142,944,256	\$ 21,442,119
8. Plan fiduciary net position – beginning	7,993,837,570	111,203,538
9. Plan fiduciary net position – ending	<b>\$ 9,136,781,826</b>	<b>\$ 132,645,657</b>
<b>C. Net pension liability</b>	<b>\$ 2,357,790,009</b>	<b>\$ 329,690,598</b>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	<b>79.49%</b>	<b>28.69%</b>
<b>E. Covered-employee payroll</b>	<b>\$ 1,902,719,928</b>	<b>\$ 49,587,936</b>
<b>F. Net pension liability as a percentage of covered employee payroll</b>	<b>123.92%</b>	<b>664.86%</b>

\* \$291,207,871 for MOSERS and \$4,195,049 for Judges of Swap and Security Lending Income was reclassified from "Other" in the GASB Statement No. 67 report to "Pension Plan Net Investment Income" since issuing the GASB Statement No. 67 report dated September 30, 2014.



**SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
**MULTIYEAR**  
**Last 10 Fiscal Years (which may be built prospectively)**

Fiscal year ending June 30,	<u>MOSERS</u> <u>2014</u>	<u>JUDGES</u> <u>2014</u>
<b>Total Pension Liability</b>		
Service Cost	\$ 158,116,026	\$ 8,990,293
Interest on the Total Pension Liability	869,878,195	34,013,615
Benefit Changes	-	-
Difference between Expected and Actual Experience	12,376,237	13,360,614
Assumption Changes	-	-
Benefit Payments	(679,014,251)	(29,406,625)
Refunds	(1,421,856)	-
<b>Net Change in Total Pension Liability</b>	<u>359,934,351</u>	<u>26,957,897</u>
<b>Total Pension Liability - Beginning</b>	<u>11,134,637,484</u>	<u>435,378,358</u>
<b>Total Pension Liability - Ending (a)</b>	<u>\$ 11,494,571,835</u>	<u>\$ 462,336,255</u>
<b>Plan Fiduciary Net Position</b>		
Employer Contributions	\$ 326,370,336	\$ 29,264,877
Employee Contributions	14,025,328	294,810
Pension Plan Net Investment Income*	1,485,159,992	21,394,750
Benefit Payments	(679,014,251)	(29,406,625)
Refunds	(1,421,856)	-
Pension Plan Administrative Expense	(7,336,922)	(105,693)
Other*	5,161,629	-
<b>Net Change in Plan Fiduciary Net Position</b>	<u>1,142,944,256</u>	<u>21,442,119</u>
<b>Plan Fiduciary Net Position - Beginning</b>	<u>7,993,837,570</u>	<u>111,203,538</u>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u>\$ 9,136,781,826</u>	<u>\$ 132,645,657</u>
<b>Net Pension Liability - Ending (a) - (b)</b>	<u>2,357,790,009</u>	<u>329,690,598</u>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	79.49 %	28.69 %
<b>Covered Employee Payroll</b>	\$ 1,902,719,928	\$ 49,587,936
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	123.92 %	664.86 %

**Notes to Schedule:**

\* \$291,207,871 for MOSERS and \$4,195,049 for Judges of Swap and Security Lending Income was reclassified from "Other" to "Pension Plan Net Investment Income" since issuing the GASB Statement No. 67 Report dated September 30, 2014.

**SCHEDULE OF EMPLOYER ALLOCATIONS & SENSITIVITY ANALYSIS OF NET PENSION LIABILITY**  
**MOSERS**

Employer	FY 2014 Employer Contributions	Employer Allocation Percentage	Net Pension Liability		
			1% Decrease	Current Single Discount Rate	1% Increase
			7.00%	8.00%	9.00%
State of Missouri	\$ 268,591,486	82.297%	\$ 3,009,603,782	\$ 1,940,379,539	\$ 1,038,501,283
Missouri Technology Corporation	21,771	0.007%	243,943	157,277	84,176
Missouri Wine and Grape Board	34,181	0.010%	383,001	246,932	132,159
Missouri Public Entity Risk Management	109,542	0.034%	1,227,433	791,362	423,541
Missouri Housing Development Commission	993,534	0.304%	11,132,688	7,177,569	3,841,473
Missouri Development Finance Board	83,453	0.026%	935,101	602,887	322,668
State Environmental Improvement & Energy Resource Authority	52,107	0.016%	583,871	376,439	201,472
Missouri Agriculture and Small Business Development Authority	22,867	0.007%	256,232	165,200	88,416
State Technical College of Missouri	1,340,404	0.411%	15,019,403	9,683,448	5,182,632
Missouri Consolidated Health Care Plan	514,746	0.158%	5,767,797	3,718,668	1,990,250
Missouri State University	15,920,447	4.878%	178,390,752	115,013,733	61,555,952
Univ of Central Missouri	8,946,847	2.741%	100,250,627	64,634,510	34,592,728
Southeast Missouri State University	7,800,768	2.390%	87,408,656	56,354,916	30,161,446
Truman State University	5,666,746	1.736%	63,496,650	40,938,147	21,910,310
Northwest Missouri State University	4,983,837	1.527%	55,844,565	36,004,624	19,269,863
Missouri Southern State University	3,725,358	1.141%	41,743,136	26,913,020	14,403,989
Missouri Western State University	3,508,084	1.075%	39,308,554	25,343,374	13,563,906
Lincoln University	2,757,130	0.845%	30,894,010	19,918,271	10,660,363
Harris-Stowe State University	1,297,028	0.397%	14,533,377	9,370,093	5,014,923
	<u>\$ 326,370,336</u>	<u>100.0%</u>	<u>\$ 3,657,023,580</u>	<u>\$ 2,357,790,009</u>	<u>\$ 1,261,901,551</u>

**JUDGES**

Employer	FY 2014 Employer Contributions	Employer Allocation Percentage	Net Pension Liability		
			1% Decrease	Current Single Discount Rate	1% Increase
			7.00%	8.00%	9.00%
State of Missouri - Judges	\$ 29,264,877	100.000%	\$ 373,545,085	\$ 329,690,598	\$ 291,802,104

*Numbers may not add due to rounding.*

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

**MOSERS**

Entity	Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense			
	Net Pension Liability	Employer Allocation Percentage	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Earnings on Pension Plan Investments	Changes of Assumptions	Total Deferred Outflows of Resources	Changes in Proportion and Differences Between Employer Contributions and Share of Contributions	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Share of Contributions
State of Missouri	\$ 1,940,379,539	82.297%	\$ 7,560,836	\$ -	\$ -	\$ 7,560,836	\$ -	\$ 565,766,717	\$ -	\$ -	\$ 565,766,717	\$ 182,407,327	\$ -	\$ 182,407,327
Missouri Technology Corporation	157,277	0.007%	613	-	-	613	-	45,858	-	-	45,858	14,785	-	14,785
Missouri Wine and Grape Board	246,932	0.010%	962	-	-	962	-	71,999	-	-	71,999	23,213	-	23,213
Missouri Public Entity Risk Management	791,362	0.034%	3,084	-	-	3,084	-	230,742	-	-	230,742	74,393	-	74,393
Missouri Housing Development Commission	7,177,569	0.304%	27,968	-	-	27,968	-	2,092,802	-	-	2,092,802	674,735	-	674,735
Missouri Development Finance Board	602,887	0.026%	2,349	-	-	2,349	-	175,787	-	-	175,787	56,675	-	56,675
State Environmental Improvement & Energy Resource Authority	376,439	0.016%	1,467	-	-	1,467	-	109,760	-	-	109,760	35,388	-	35,388
Missouri Agriculture and Small Business Development Authority	165,200	0.007%	644	-	-	644	-	48,168	-	-	48,168	15,530	-	15,530
State Technical College of Missouri	9,683,448	0.411%	37,732	-	-	37,732	-	2,823,454	-	-	2,823,454	910,302	-	910,302
Missouri Consolidated Health Care Plan	3,718,668	0.158%	14,490	-	-	14,490	-	1,084,272	-	-	1,084,272	349,577	-	349,577
Missouri State University	115,013,733	4.878%	448,160	-	-	448,160	-	33,535,162	-	-	33,535,162	10,811,981	-	10,811,981
Univ of Central Missouri	64,634,510	2.741%	251,853	-	-	251,853	-	18,845,826	-	-	18,845,826	6,076,032	-	6,076,032
Southeast Missouri State University	56,354,916	2.390%	219,591	-	-	219,591	-	16,431,701	-	-	16,431,701	5,297,700	-	5,297,700
Truman State University	40,938,147	1.736%	159,519	-	-	159,519	-	11,936,552	-	-	11,936,552	3,848,432	-	3,848,432
Northwest Missouri State University	36,004,624	1.527%	140,295	-	-	140,295	-	10,498,058	-	-	10,498,058	3,384,651	-	3,384,651
Missouri Southern State University	26,913,020	1.141%	104,869	-	-	104,869	-	7,847,171	-	-	7,847,171	2,529,985	-	2,529,985
Missouri Western State University	25,343,374	1.075%	98,752	-	-	98,752	-	7,389,502	-	-	7,389,502	2,382,429	-	2,382,429
Lincoln University	19,918,271	0.845%	77,613	-	-	77,613	-	5,807,676	-	-	5,807,676	1,872,437	-	1,872,437
Harris-Stowe State University	9,370,093	0.397%	36,511	-	-	36,511	-	2,732,088	-	-	2,732,088	880,845	-	880,845
<b>TOTAL</b>	<b>\$ 2,357,790,009</b>	<b>100.00%</b>	<b>\$ 9,187,307</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 9,187,307</b>	<b>\$ -</b>	<b>\$ 687,473,293</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 687,473,293</b>	<b>\$ 221,646,417</b>	<b>\$ -</b>	<b>\$ 221,646,417</b>

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

**JUDGES**

Entity	Deferred Outflows of Resources					Deferred Inflows of Resources					Pension Expense			
	Net Pension Liability	Proportionate Share	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
State of Missouri - Judges Plan	\$ 329,690,598	100.00%	\$ 9,718,433	\$ -	\$ -	\$ 9,718,433	\$ -	\$ 9,997,258	\$ -	\$ -	\$ 9,997,258	\$ 35,059,480	\$ -	\$ 35,059,480

**SCHEDULE OF CONTRIBUTIONS MULTIYEAR**  
**MOSERS**

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Actual Contribution as a % of Covered Payroll *</b>
2014	\$ 326,370,336	\$ 326,370,336	\$ -	\$ 1,902,719,928	17.15%

**JUDGES**

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Actual Contribution as a % of Covered Payroll *</b>
2014	\$ 29,264,877	\$ 29,264,877	\$ -	\$ 49,587,936	59.02%

\* Actual contribution rate shown is the actual employer contribution made divided by payroll in force on May 31<sup>st</sup> reported for the valuation. This rate as computed may vary from the Board's certified employer contribution rate due to fluctuations in membership and pay during the year.

## NOTES TO SCHEDULE OF CONTRIBUTIONS

**Valuation Date:** June 30, 2014

Notes Actuarially determined contribution rates are calculated as of June 30th, which is 1 year prior to the beginning of the fiscal year in which contributions are reported.

**Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percentage of Payroll, Closed, with a minimum employer contribution rate equal to the rate determined by the June 30, 2013 actuarial valuation.
Remaining Amortization Period	The Unfunded Actuarial Accrued Liability (UAAL) payment is calculated such that the minimum employer contribution rate will remain at 16.97% of payroll (58.45% for Judges) (the rate calculated in the June 30, 2013 valuation) until such a time as the plan is at least 80% funded. When the plan becomes at least 80% funded, the remaining closed amortization period will be used to calculate the employer contribution rate.
Asset Valuation Method	Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased-in over an open three-year period. Valuation assets are not permitted to deviate from the market value by less than 80% or more than 125%.
Inflation	2.5%
Salary Increases	3.0% to 5.9% including inflation (3.0% to 5.2% for Judges)
Investment Rate of Return	8.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2007 - 2011.
Mortality	RP 2000 mortality table, projected to 2016 with Scale AA, including a margin of 15% for men and 17% for women.

**Other Information:**

Notes There were no benefit changes during the year.

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## **SECTION C**

### **CALCULATION OF THE SINGLE DISCOUNT RATE**

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Auditor's Note – This information is subject to the System's auditor's review. Please let us know if the System's auditor recommends any changes.

## CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a “risk-free” rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 8.00%; the municipal bond rate is 4.29%; and the resulting Single Discount Rate is 8.00%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.



**MOSERS**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PROJECTION OF CONTRIBUTIONS ENDING JUNE 30, 2015**

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Total Contributions
0	\$ 1,902,719,928				
1	1,864,024,265	\$ 14,460,616	\$ 141,178,280	\$ 187,647,130	\$ 343,286,026
2	1,715,999,470	12,631,656	130,348,811	198,596,082	341,576,549
3	1,592,039,987	11,456,192	120,781,017	179,367,880	311,605,089
4	1,483,340,850	10,682,675	112,040,090	191,228,488	313,951,253
5	1,385,909,695	10,169,048	103,976,729	203,424,012	317,569,789
6	1,296,393,749	9,805,179	96,458,024	215,735,667	321,998,869
7	1,211,603,105	9,488,391	89,326,962	227,917,739	326,733,091
8	1,129,736,404	9,158,392	82,467,417	240,401,321	332,027,130
9	1,050,400,520	8,803,427	75,867,381	252,701,864	337,372,672
10	973,737,307	8,439,051	69,534,723	150,978,003	228,951,777
11	900,277,013	8,093,725	63,486,772	155,507,343	227,087,839
12	830,304,135	7,777,620	57,754,051	160,172,563	225,704,234
13	763,943,313	7,481,023	52,352,573	164,977,740	224,811,336
14	701,140,674	7,203,653	47,268,880	169,927,072	224,399,605
15	641,824,173	6,943,187	42,500,000	175,024,884	224,468,071
16	585,786,976	6,693,495	38,032,674	180,275,631	225,001,801
17	532,962,453	6,457,013	33,855,761	185,683,900	225,996,674
18	483,378,804	6,237,130	29,966,948	191,254,417	227,458,495
19	436,730,603	6,027,882	26,342,571	196,992,049	229,362,501
20	393,020,262	5,823,484	22,988,826	202,901,811	231,714,121
21	351,994,027	5,620,793	19,884,876	208,988,865	234,494,535
22	314,015,892	5,424,286	17,056,477	215,258,531	237,739,294
23	279,304,609	5,235,762	14,514,217	221,716,287	241,466,266
24	248,039,840	5,056,909	12,262,951	228,367,776	245,687,635
25	220,348,170	4,875,893	10,319,085	235,218,809	250,413,787
26	195,501,077	4,668,952	8,640,716	242,275,373	255,585,041
27	172,927,781	4,417,395	7,209,668	249,543,634	261,170,698
28	151,954,565	4,107,221	5,982,589	257,029,943	267,119,753
29	132,132,172	3,739,144	4,930,003	264,740,842	273,409,989
30	112,908,902	3,308,024	4,016,222	272,683,067	280,007,313
31	93,907,031	2,814,302	3,220,140	280,863,559	286,898,001
32	75,354,351	2,282,810	2,525,111	-	4,807,921
33	57,940,677	1,751,703	1,933,581	-	3,685,285
34	42,922,679	1,280,872	1,450,167	-	2,731,039
35	31,247,897	915,935	1,079,030	-	1,994,964
36	22,773,076	656,155	803,059	-	1,459,213
37	16,724,769	475,459	598,513	-	1,073,972
38	12,371,995	348,275	447,914	-	796,188
39	9,207,863	257,842	334,492	-	592,334
40	6,886,698	192,729	250,132	-	442,861
41	5,167,578	145,155	184,796	-	329,951
42	3,867,010	109,562	135,482	-	245,044
43	2,878,530	82,474	97,983	-	180,457
44	2,129,401	61,876	71,703	-	133,579
45	1,556,171	46,105	49,658	-	95,763
46	1,119,116	33,850	33,287	-	67,137
47	785,841	24,310	23,847	-	48,157
48	533,562	16,925	15,524	-	32,449
49	348,829	11,332	8,508	-	19,840
50	216,537	7,232	3,906	-	11,138

**MOSERS**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PROJECTION OF PLAN FIDUCIARY NET POSITION**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 9,136,781,826	\$ 343,286,026	\$ 673,226,765	\$ 6,896,890	\$ 717,728,243	\$ 9,517,672,440
2	9,517,672,440	341,576,549	726,032,431	6,349,198	746,082,323	9,872,949,683
3	9,872,949,683	311,605,089	780,618,444	5,890,548	771,205,264	10,169,251,045
4	10,169,251,045	313,951,253	830,219,901	5,488,361	793,071,303	10,440,565,339
5	10,440,565,339	317,569,789	875,684,892	5,127,866	813,148,932	10,690,471,302
6	10,690,471,302	321,998,869	916,516,988	4,796,657	831,726,295	10,922,882,821
7	10,922,882,821	326,733,091	953,149,234	4,482,931	849,080,149	11,141,063,897
8	11,141,063,897	332,027,130	988,035,641	4,180,025	865,385,596	11,346,260,957
9	11,346,260,957	337,372,672	1,022,801,057	3,886,482	880,658,720	11,537,604,810
10	11,537,604,810	228,951,777	1,056,724,832	3,602,828	890,393,106	11,596,622,033
11	11,596,622,033	227,087,839	1,089,778,809	3,331,025	893,755,300	11,624,355,338
12	11,624,355,338	225,704,234	1,120,002,109	3,072,125	894,744,167	11,621,729,506
13	11,621,729,506	224,811,336	1,147,209,269	2,826,590	893,441,354	11,589,946,337
14	11,589,946,337	224,399,605	1,172,897,590	2,594,220	889,883,899	11,528,738,031
15	11,528,738,031	224,468,071	1,194,866,613	2,374,749	884,136,675	11,440,101,415
16	11,440,101,415	225,001,801	1,214,475,819	2,167,412	876,305,539	11,324,765,524
17	11,324,765,524	225,996,674	1,230,579,974	1,971,961	866,493,591	11,184,703,854
18	11,184,703,854	227,458,495	1,243,602,483	1,788,502	854,842,324	11,021,613,687
19	11,021,613,687	229,362,501	1,252,848,382	1,615,903	841,513,855	10,838,025,759
20	10,838,025,759	231,714,121	1,258,075,639	1,454,175	826,720,353	10,636,930,419
21	10,636,930,419	234,494,535	1,259,596,103	1,302,378	810,688,109	10,421,214,582
22	10,421,214,582	237,739,294	1,257,221,324	1,161,859	793,656,812	10,194,227,505
23	10,194,227,505	241,466,266	1,251,633,366	1,033,427	775,868,314	9,958,895,291
24	9,958,895,291	245,687,635	1,241,154,039	917,747	757,622,990	9,720,134,131
25	9,720,134,131	250,413,787	1,226,152,783	815,288	739,300,033	9,482,879,879
26	9,482,879,879	255,585,041	1,206,492,030	723,354	721,297,471	9,252,547,008
27	9,252,547,008	261,170,698	1,182,479,275	639,833	704,035,278	9,034,633,875
28	9,034,633,875	267,119,753	1,155,532,435	562,232	687,895,793	8,833,554,754
29	8,833,554,754	273,409,989	1,126,995,413	488,889	673,178,631	8,652,659,072
30	8,652,659,072	280,007,313	1,097,405,885	417,763	660,129,395	8,494,972,132
31	8,494,972,132	286,898,001	1,068,090,851	347,456	648,937,566	8,362,369,391
32	8,362,369,391	4,807,921	1,038,714,026	278,811	628,417,976	7,956,602,451
33	7,956,602,451	3,685,285	1,008,313,146	214,381	597,107,748	7,548,867,956
34	7,548,867,956	2,731,039	976,128,286	158,814	565,716,360	7,141,028,255
35	7,141,028,255	1,994,964	940,888,362	115,617	534,444,482	6,736,463,722
36	6,736,463,722	1,459,213	903,107,147	84,260	503,541,707	6,338,273,235
37	6,338,273,235	1,073,972	863,676,660	61,882	473,219,110	5,948,827,775
38	5,948,827,775	796,188	823,500,485	45,776	443,629,338	5,569,707,040
39	5,569,707,040	592,334	783,394,025	34,069	414,865,537	5,201,736,817
40	5,201,736,817	442,861	743,797,997	25,481	386,975,764	4,845,331,964
41	4,845,331,964	329,951	704,940,940	19,120	359,983,577	4,500,685,431
42	4,500,685,431	245,044	666,794,246	14,308	333,905,225	4,168,027,146
43	4,168,027,146	180,457	629,328,981	10,651	308,759,952	3,847,627,924
44	3,847,627,924	133,579	592,487,826	7,879	284,571,581	3,539,837,378
45	3,539,837,378	95,763	556,099,546	5,758	261,374,467	3,245,202,303
46	3,245,202,303	67,137	520,241,514	4,141	239,209,329	2,964,233,114
47	2,964,233,114	48,157	485,177,555	2,908	218,106,674	2,697,207,481
48	2,697,207,481	32,449	450,968,430	1,974	198,086,084	2,444,355,610
49	2,444,355,610	19,840	417,723,838	1,291	179,161,668	2,205,811,990
50	2,205,811,990	11,138	385,513,214	801	161,341,494	1,981,650,607

# MOSERS

## SINGLE DISCOUNT RATE DEVELOPMENT

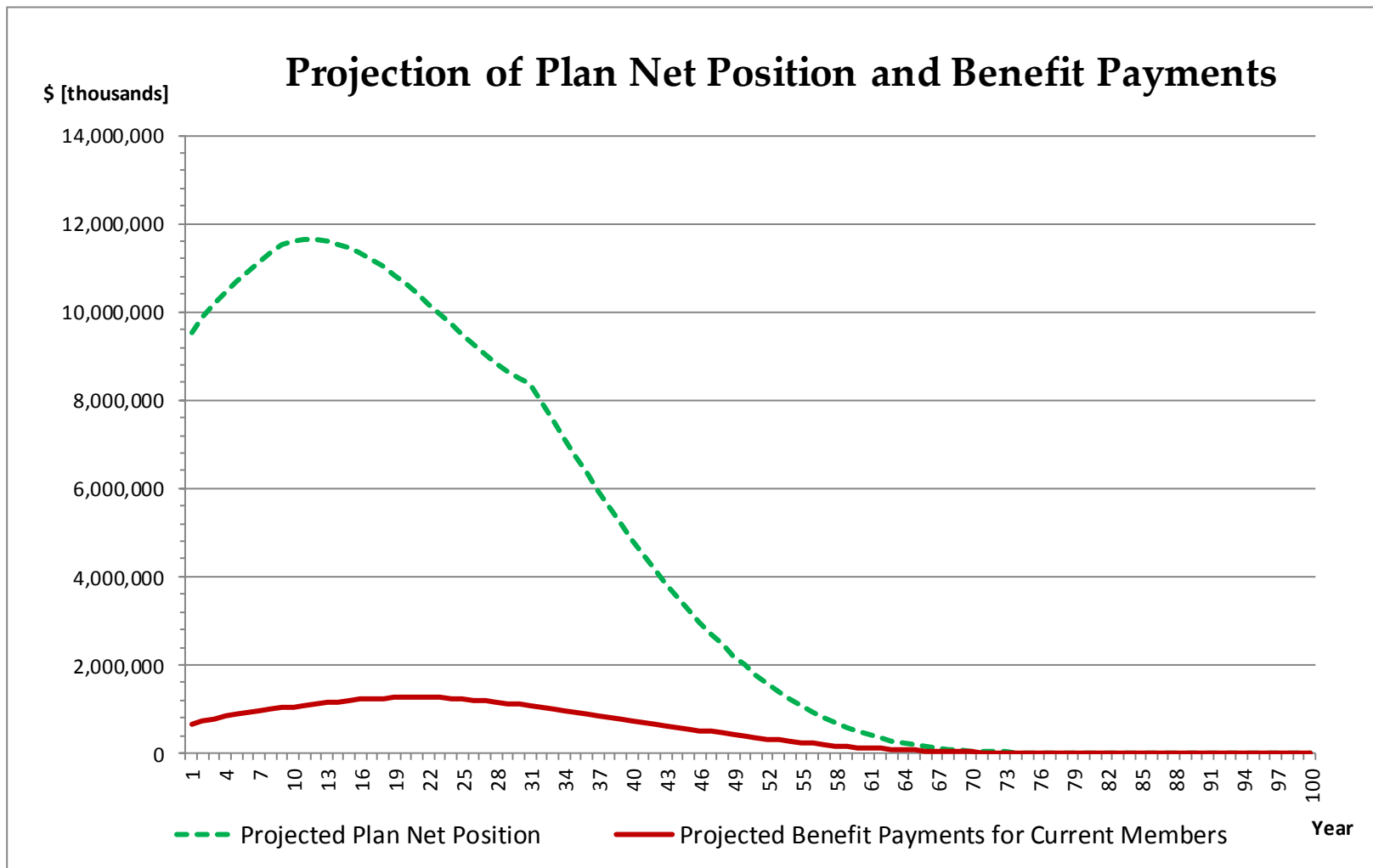
### PRESENT VALUES OF PROJECTED BENEFITS

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> ((a)-5)	(g)=(e)*vf <sup>a</sup> ((a)-5)	(h)=(c)/(1+sdr) <sup>a</sup> ((a)-5)
1	\$ 9,136,781,826	\$ 673,226,765	\$ 673,226,765	\$ -	\$ 647,812,756	\$ -	\$ 647,812,756
2	9,517,672,440	726,032,431	726,032,431	-	646,875,030	-	646,875,030
3	9,872,949,683	780,618,444	780,618,444	-	643,990,439	-	643,990,439
4	10,169,251,045	830,219,901	830,219,901	-	634,176,282	-	634,176,282
5	10,440,565,339	875,684,892	875,684,892	-	619,356,868	-	619,356,868
6	10,690,471,302	916,516,988	916,516,988	-	600,219,173	-	600,219,173
7	10,922,882,821	953,149,234	953,149,234	-	577,971,591	-	577,971,591
8	11,141,063,897	988,035,641	988,035,641	-	554,746,339	-	554,746,339
9	11,346,260,957	1,022,801,057	1,022,801,057	-	531,727,653	-	531,727,653
10	11,537,604,810	1,056,724,832	1,056,724,832	-	508,670,130	-	508,670,130
11	11,596,622,033	1,089,778,809	1,089,778,809	-	485,723,288	-	485,723,288
12	11,624,355,338	1,120,002,109	1,120,002,109	-	462,216,721	-	462,216,721
13	11,621,729,506	1,147,209,269	1,147,209,269	-	438,374,924	-	438,374,924
14	11,589,946,337	1,172,897,590	1,172,897,590	-	414,991,685	-	414,991,685
15	11,528,738,031	1,194,866,613	1,194,866,613	-	391,448,805	-	391,448,805
16	11,440,101,415	1,214,475,819	1,214,475,819	-	368,400,883	-	368,400,883
17	11,324,765,524	1,230,579,974	1,230,579,974	-	345,635,130	-	345,635,131
18	11,184,703,854	1,243,602,483	1,243,602,483	-	323,419,245	-	323,419,246
19	11,021,613,687	1,252,848,382	1,252,848,382	-	301,688,698	-	301,688,698
20	10,838,025,759	1,258,075,639	1,258,075,639	-	280,506,882	-	280,506,882
21	10,636,930,419	1,259,596,103	1,259,596,103	-	260,042,493	-	260,042,493
22	10,421,214,582	1,257,221,324	1,257,221,324	-	240,326,132	-	240,326,132
23	10,194,227,505	1,251,633,366	1,251,633,366	-	221,535,145	-	221,535,145
24	9,958,895,291	1,241,154,039	1,241,154,039	-	203,407,720	-	203,407,720
25	9,720,134,131	1,226,152,783	1,226,152,783	-	186,064,097	-	186,064,097
26	9,482,879,879	1,206,492,030	1,206,492,030	-	169,519,121	-	169,519,121
27	9,252,547,008	1,182,479,275	1,182,479,275	-	153,838,139	-	153,838,139
28	9,034,633,875	1,155,532,435	1,155,532,435	-	139,196,676	-	139,196,676
29	8,833,554,754	1,126,995,413	1,126,995,413	-	125,702,848	-	125,702,848
30	8,652,659,072	1,097,405,885	1,097,405,885	-	113,335,639	-	113,335,639
31	8,494,972,132	1,068,090,851	1,068,090,851	-	102,137,131	-	102,137,131
32	8,362,369,391	1,038,714,026	1,038,714,026	-	91,970,320	-	91,970,320
33	7,956,602,451	1,008,313,146	1,008,313,146	-	82,665,325	-	82,665,325
34	7,548,867,956	976,128,286	976,128,286	-	74,098,785	-	74,098,785
35	7,141,028,255	940,888,362	940,888,362	-	66,133,047	-	66,133,047
36	6,736,463,722	903,107,147	903,107,147	-	58,775,450	-	58,775,450
37	6,338,273,235	863,676,660	863,676,660	-	52,045,611	-	52,045,611
38	5,948,827,775	823,500,485	823,500,485	-	45,948,679	-	45,948,679
39	5,569,707,040	783,394,025	783,394,025	-	40,473,025	-	40,473,025
40	5,201,736,817	743,797,997	743,797,997	-	35,580,878	-	35,580,878
41	4,845,331,964	704,940,940	704,940,940	-	31,224,151	-	31,224,151
42	4,500,685,431	666,794,246	666,794,246	-	27,346,767	-	27,346,767
43	4,168,027,146	629,328,981	629,328,981	-	23,898,361	-	23,898,361
44	3,847,627,924	592,487,826	592,487,826	-	20,832,724	-	20,832,724
45	3,539,837,378	556,099,546	556,099,546	-	18,104,870	-	18,104,870
46	3,245,202,303	520,241,514	520,241,514	-	15,682,819	-	15,682,819
47	2,964,233,114	485,177,555	485,177,555	-	13,542,414	-	13,542,414
48	2,697,207,481	450,968,430	450,968,430	-	11,655,147	-	11,655,147
49	2,444,355,610	417,723,838	417,723,838	-	9,996,250	-	9,996,250
50	2,205,811,990	385,513,214	385,513,214	-	8,542,075	-	8,542,075

**MOSERS**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)={(c)/(1+sdr)^(a)-.5}
51	\$ 1,981,650,607	\$ 354,429,885	\$ 354,429,885	\$ -	\$ 7,271,612	\$ -	\$ 7,271,612
52	1,771,854,897	324,531,028	324,531,028	-	6,164,996	-	6,164,996
53	1,576,343,858	295,857,553	295,857,553	-	5,203,979	-	5,203,979
54	1,394,988,031	268,452,951	268,452,951	-	4,372,172	-	4,372,172
55	1,227,602,640	242,366,626	242,366,626	-	3,654,922	-	3,654,922
56	1,073,936,065	217,639,318	217,639,318	-	3,038,918	-	3,038,918
57	933,673,536	194,311,854	194,311,854	-	2,512,217	-	2,512,217
58	806,432,617	172,419,071	172,419,071	-	2,064,046	-	2,064,046
59	691,764,072	151,991,380	151,991,380	-	1,684,726	-	1,684,726
60	589,151,122	133,050,120	133,050,120	-	1,365,532	-	1,365,532
61	498,013,471	115,609,769	115,609,769	-	1,098,645	-	1,098,645
62	417,709,353	99,673,456	99,673,456	-	877,038	-	877,038
63	347,542,407	85,231,262	85,231,262	-	694,407	-	694,407
64	286,770,874	72,258,061	72,258,061	-	545,102	-	545,102
65	234,619,764	60,713,986	60,713,986	-	424,089	-	424,089
66	190,293,520	50,545,343	50,545,343	-	326,908	-	326,908
67	152,988,740	41,683,181	41,683,181	-	249,621	-	249,621
68	121,909,407	34,044,145	34,044,145	-	188,773	-	188,773
69	96,282,446	27,533,935	27,533,935	-	141,365	-	141,365
70	75,370,937	22,050,713	22,050,713	-	104,827	-	104,827
71	58,484,839	17,487,255	17,487,255	-	76,974	-	76,974
72	44,990,338	13,734,720	13,734,720	-	55,979	-	55,979
73	34,316,025	10,685,358	10,685,358	-	40,324	-	40,324
74	25,956,757	8,236,181	8,236,181	-	28,779	-	28,779
75	19,474,007	6,291,456	6,291,456	-	20,355	-	20,355
76	14,493,655	4,764,085	4,764,085	-	14,272	-	14,272
77	10,702,165	3,576,805	3,576,805	-	9,922	-	9,922
78	7,841,213	2,662,748	2,662,748	-	6,839	-	6,839
79	5,701,301	1,965,619	1,965,619	-	4,674	-	4,674
80	4,114,674	1,438,910	1,438,910	-	3,168	-	3,168
81	2,948,489	1,044,660	1,044,660	-	2,130	-	2,130
82	2,098,725	752,295	752,295	-	1,420	-	1,420
83	1,484,815	537,542	537,542	-	940	-	940
84	1,044,970	381,294	381,294	-	617	-	617
85	732,315	268,788	268,788	-	403	-	403
86	511,567	188,517	188,517	-	262	-	262
87	356,580	131,721	131,721	-	169	-	169
88	248,218	91,830	91,830	-	109	-	109
89	172,643	63,978	63,978	-	70	-	70
90	119,967	44,582	44,582	-	45	-	45
91	83,234	31,076	31,076	-	29	-	29
92	57,597	21,670	21,670	-	19	-	19
93	39,685	15,117	15,117	-	12	-	12
94	27,150	10,553	10,553	-	8	-	8
95	18,354	7,343	7,343	-	5	-	5
96	12,191	5,073	5,073	-	3	-	3
97	7,894	3,514	3,514	-	2	-	2
98	4,874	2,443	2,443	-	1	-	1
99	2,725	1,713	1,713	-	1	-	1
100	1,163	1,163	1,163	-	1	-	1
<b>Totals</b>					<b>\$ 12,463,825,788</b>	<b>\$ -</b>	<b>\$ 12,463,825,788</b>

**MOSERS**



**JUDGES**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PROJECTION OF CONTRIBUTIONS**

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Total Contributions
0	\$ 49,587,936				
1	54,231,366	\$ 352,593	\$ 10,302,701	\$ 20,537,569	\$ 31,192,864
2	51,072,165	358,337	9,523,625	21,221,900	31,103,862
3	47,991,301	364,103	8,746,993	21,764,089	30,875,185
4	44,648,075	369,571	7,914,265	22,884,553	31,168,388
5	41,425,620	372,524	7,141,309	23,978,128	31,491,961
6	38,500,444	372,130	6,466,922	25,039,958	31,879,009
7	35,841,977	373,239	5,866,295	26,089,178	32,328,712
8	33,311,544	372,373	5,319,037	27,128,700	32,820,110
9	30,636,021	366,622	4,740,688	28,213,564	33,320,874
10	28,053,562	363,227	4,192,449	29,312,521	33,868,197
11	25,643,996	358,704	3,687,200	30,438,332	34,484,236
12	23,522,307	352,292	3,261,249	31,563,006	35,176,547
13	21,484,411	343,940	2,870,533	32,727,766	35,942,238
14	19,345,377	328,697	2,472,676	33,934,004	36,735,377
15	17,412,300	313,491	2,142,596	35,136,935	37,593,022
16	15,583,143	294,412	1,847,315	36,357,693	38,499,420
17	13,563,964	262,860	1,544,501	37,603,726	39,411,087
18	11,609,515	228,299	1,277,212	38,849,704	40,355,215
19	9,903,479	198,877	1,056,325	40,127,926	41,383,129
20	8,319,187	171,677	858,432	41,421,081	42,451,190
21	6,826,409	142,123	682,781	42,746,511	43,571,415
22	5,609,199	118,203	541,867	44,085,760	44,745,830
23	4,680,429	104,842	428,926	45,457,133	45,990,901
24	3,853,244	93,772	330,751	46,861,058	47,285,581
25	3,071,640	79,147	249,410	48,266,889	48,595,446
26	2,363,551	62,423	182,793	11,828,916	12,074,132
27	1,853,113	51,490	134,111	12,183,784	12,369,384
28	1,454,625	43,369	96,952	12,549,297	12,689,618
29	1,096,368	34,292	68,382	12,925,776	13,028,451
30	777,576	25,664	45,221	13,313,549	13,384,434
31	549,204	19,373	29,334	13,712,956	13,761,662
32	404,571	14,641	20,784	-	35,425
33	243,318	9,264	11,450	-	20,714
34	131,581	5,263	5,388	-	10,651
35	88,004	3,520	3,418	-	6,938
36	67,204	2,688	2,606	-	5,294
37	35,459	1,418	1,378	-	2,796
38	6,733	269	267	-	537
39	-	-	-	-	-
40	-	-	-	-	-
41	-	-	-	-	-
42	-	-	-	-	-
43	-	-	-	-	-
44	-	-	-	-	-
45	-	-	-	-	-
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-
49	-	-	-	-	-
50	-	-	-	-	-

**JUDGES**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PROJECTION OF PLAN FIDUCIARY NET POSITION**

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 132,645,657	\$ 31,192,864	\$ 31,158,516	\$ 113,886	\$ 10,608,532	\$ 143,174,651
2	143,174,651	31,103,862	33,376,695	107,252	11,360,600	152,155,166
3	152,155,166	30,875,185	35,481,456	100,782	11,987,753	159,435,867
4	159,435,867	31,168,388	37,754,214	93,761	12,492,826	165,249,106
5	165,249,106	31,491,961	39,880,134	86,994	12,887,444	169,661,383
6	169,661,383	31,879,009	41,718,236	80,851	13,183,741	172,925,047
7	172,925,047	32,328,712	43,461,108	75,268	13,394,322	175,111,704
8	175,111,704	32,820,110	44,977,775	69,954	13,529,241	176,413,326
9	176,413,326	33,320,874	46,502,429	64,336	13,593,423	176,760,857
10	176,760,857	33,868,197	47,849,008	58,912	13,590,083	176,311,218
11	176,311,218	34,484,236	49,030,371	53,852	13,532,133	175,243,363
12	175,243,363	35,176,547	49,960,822	49,397	13,437,537	173,847,228
13	173,847,228	35,942,238	50,752,529	45,117	13,324,993	172,316,813
14	172,316,813	36,735,377	51,448,735	40,625	13,206,539	170,769,369
15	170,769,369	37,593,022	51,944,542	36,566	13,097,098	169,478,382
16	169,478,382	38,499,420	52,181,707	32,725	13,020,224	168,783,594
17	168,783,594	39,411,087	52,336,298	28,484	12,994,508	168,824,407
18	168,824,407	40,355,215	52,290,635	24,380	13,036,764	169,901,371
19	169,901,371	41,383,129	51,954,210	20,797	13,176,585	172,486,078
20	172,486,078	42,451,190	51,398,837	17,470	13,447,180	176,968,142
21	176,968,142	43,571,415	50,623,513	14,335	13,880,232	183,781,941
22	183,781,941	44,745,830	49,568,936	11,779	14,512,880	193,459,936
23	193,459,936	45,990,901	48,259,385	9,829	15,387,416	206,569,038
24	206,569,038	47,285,581	46,757,016	8,092	16,545,941	223,635,453
25	223,635,453	48,595,446	45,123,971	6,450	18,026,771	245,127,249
26	245,127,249	12,074,132	43,375,430	4,963	18,382,020	232,203,008
27	232,203,008	12,369,384	41,446,645	3,892	17,435,373	220,557,229
28	220,557,229	12,689,618	39,398,807	3,055	16,596,644	210,441,628
29	210,441,628	13,028,451	37,305,110	2,302	15,882,855	202,045,522
30	202,045,522	13,384,434	35,208,381	1,633	15,307,414	195,527,356
31	195,527,356	13,761,662	33,074,411	1,153	14,884,495	191,097,949
32	191,097,949	35,425	30,902,560	850	14,076,870	174,306,834
33	174,306,834	20,714	28,770,918	511	12,816,642	158,372,762
34	158,372,762	10,651	26,674,162	276	11,623,788	143,332,763
35	143,332,763	6,938	24,617,073	185	10,501,146	129,223,589
36	129,223,589	5,294	22,621,229	141	9,450,648	116,058,161
37	116,058,161	2,796	20,709,686	74	8,472,309	103,823,506
38	103,823,506	537	18,886,931	14	7,564,958	92,502,055
39	92,502,055	-	17,148,712	-	6,727,412	82,080,755
40	82,080,755	-	15,505,476	-	5,958,173	72,533,452
41	72,533,452	-	13,962,210	-	5,254,932	63,826,174
42	63,826,174	-	12,519,344	-	4,614,954	55,921,784
43	55,921,784	-	11,176,878	-	4,035,268	48,780,174
44	48,780,174	-	9,933,529	-	3,512,717	42,359,362
45	42,359,362	-	8,787,331	-	3,044,018	36,616,049
46	36,616,049	-	7,735,966	-	2,625,798	31,505,881
47	31,505,881	-	6,777,189	-	2,254,598	26,983,290
48	26,983,290	-	5,907,879	-	1,926,894	23,002,305
49	23,002,305	-	5,124,396	-	1,639,152	19,517,061
50	19,517,061	-	4,422,614	-	1,387,864	16,482,311

**JUDGES**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PRESENT VALUES OF PROJECTED BENEFITS**

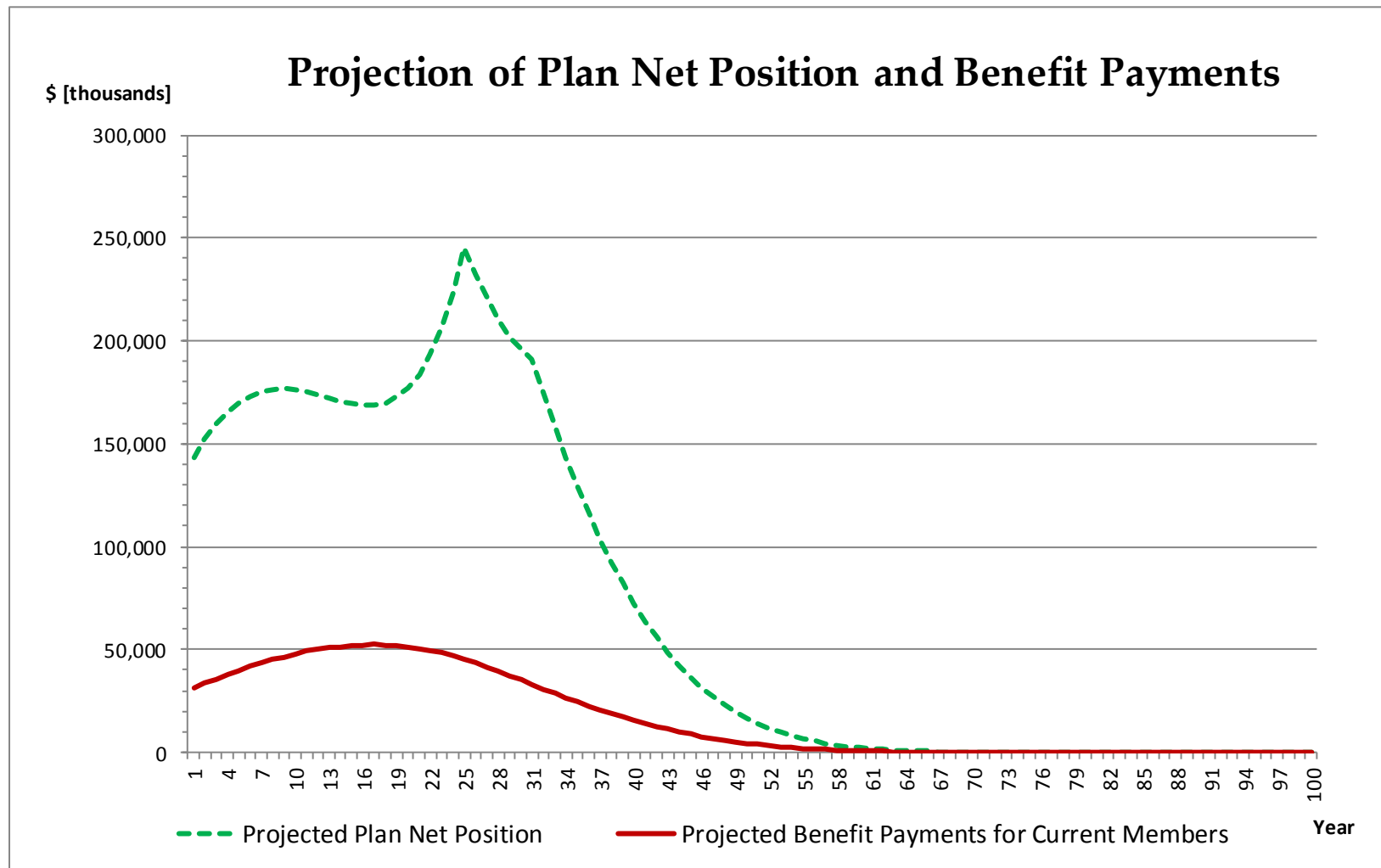
Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=-((c)/(1+sdr)) <sup>a</sup> (a-.5)
1	\$ 132,645,657	\$ 31,158,516	\$ 31,158,516	\$ -	\$ 29,982,296	\$ -	\$ 29,982,296
2	143,174,651	33,376,695	33,376,695	-	29,737,722	-	29,737,722
3	152,155,166	35,481,456	35,481,456	-	29,271,302	-	29,271,302
4	159,435,867	37,754,214	37,754,214	-	28,839,139	-	28,839,139
5	165,249,106	39,880,134	39,880,134	-	28,206,533	-	28,206,533
6	169,661,383	41,718,236	41,718,236	-	27,320,917	-	27,320,917
7	172,925,047	43,461,108	43,461,108	-	26,353,990	-	26,353,990
8	175,111,704	44,977,775	44,977,775	-	25,253,397	-	25,253,397
9	176,413,326	46,502,429	46,502,429	-	24,175,403	-	24,175,403
10	176,760,857	47,849,008	47,849,008	-	23,032,828	-	23,032,828
11	176,311,218	49,030,371	49,030,371	-	21,853,236	-	21,853,236
12	175,243,363	49,960,822	49,960,822	-	20,618,468	-	20,618,468
13	173,847,228	50,752,529	50,752,529	-	19,393,703	-	19,393,703
14	172,316,813	51,448,735	51,448,735	-	18,203,463	-	18,203,463
15	170,769,369	51,944,542	51,944,542	-	17,017,488	-	17,017,488
16	169,478,382	52,181,707	52,181,707	-	15,828,876	-	15,828,876
17	168,783,594	52,336,298	52,336,298	-	14,699,787	-	14,699,787
18	168,824,407	52,290,635	52,290,635	-	13,599,038	-	13,599,038
19	169,901,371	51,954,210	51,954,210	-	12,510,690	-	12,510,690
20	172,486,078	51,398,837	51,398,837	-	11,460,144	-	11,460,144
21	176,968,142	50,623,513	50,623,513	-	10,451,179	-	10,451,179
22	183,781,941	49,568,936	49,568,936	-	9,475,428	-	9,475,428
23	193,459,936	48,259,385	48,259,385	-	8,541,758	-	8,541,758
24	206,569,038	46,757,016	46,757,016	-	7,662,818	-	7,662,818
25	223,635,453	45,123,971	45,123,971	-	6,847,394	-	6,847,394
26	245,127,249	43,375,430	43,375,430	-	6,094,499	-	6,094,499
27	232,203,008	41,446,645	41,446,645	-	5,392,124	-	5,392,124
28	220,557,229	39,398,807	39,398,807	-	4,746,023	-	4,746,023
29	210,441,628	37,305,110	37,305,110	-	4,160,938	-	4,160,938
30	202,045,522	35,208,381	35,208,381	-	3,636,179	-	3,636,179
31	195,527,356	33,074,411	33,074,411	-	3,162,770	-	3,162,770
32	191,097,949	30,902,560	30,902,560	-	2,736,189	-	2,736,189
33	174,306,834	28,770,918	28,770,918	-	2,358,749	-	2,358,749
34	158,372,762	26,674,162	26,674,162	-	2,024,860	-	2,024,860
35	143,332,763	24,617,073	24,617,073	-	1,730,282	-	1,730,282
36	129,223,589	22,621,229	22,621,229	-	1,472,221	-	1,472,221
37	116,058,161	20,709,686	20,709,686	-	1,247,977	-	1,247,977
38	103,823,506	18,886,931	18,886,931	-	1,053,830	-	1,053,830
39	92,502,055	17,148,712	17,148,712	-	885,966	-	885,966
40	82,080,755	15,505,476	15,505,476	-	741,732	-	741,732
41	72,533,452	13,962,210	13,962,210	-	618,432	-	618,432
42	63,826,174	12,519,344	12,519,344	-	513,447	-	513,447
43	55,921,784	11,176,878	11,176,878	-	424,435	-	424,435
44	48,780,174	9,933,529	9,933,529	-	349,277	-	349,277
45	42,359,362	8,787,331	8,787,331	-	286,088	-	286,088
46	36,616,049	7,735,966	7,735,966	-	233,203	-	233,203
47	31,505,881	6,777,189	6,777,189	-	189,167	-	189,167
48	26,983,290	5,907,879	5,907,879	-	152,687	-	152,687
49	23,002,305	5,124,396	5,124,396	-	122,628	-	122,628
50	19,517,061	4,422,614	4,422,614	-	97,995	-	97,995



**JUDGES**  
**SINGLE DISCOUNT RATE DEVELOPMENT**  
**PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)**

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>^</sup> ((a)-.5)	(g)=(e)*vf <sup>^</sup> ((a)-.5)	(h)=(c)/(1+sdr) <sup>^</sup> (a-.5)
51	\$ 16,482,311	\$ 3,797,722	\$ 3,797,722	\$ -	\$ 77,915	\$ -	\$ 77,915
52	13,854,187	3,244,593	3,244,593	-	61,636	-	61,636
53	11,590,642	2,758,179	2,758,179	-	48,515	-	48,515
54	9,651,510	2,333,171	2,333,171	-	37,999	-	37,999
55	7,998,928	1,964,115	1,964,115	-	29,619	-	29,619
56	6,597,673	1,645,345	1,645,345	-	22,974	-	22,974
57	5,415,595	1,371,554	1,371,554	-	17,733	-	17,733
58	4,423,482	1,137,773	1,137,773	-	13,620	-	13,620
59	3,594,952	939,399	939,399	-	10,413	-	10,413
60	2,906,296	771,916	771,916	-	7,922	-	7,922
61	2,336,601	631,050	631,050	-	5,997	-	5,997
62	1,867,723	513,126	513,126	-	4,515	-	4,515
63	1,483,884	414,945	414,945	-	3,381	-	3,381
64	1,171,372	333,668	333,668	-	2,517	-	2,517
65	918,323	266,603	266,603	-	1,862	-	1,862
66	714,728	211,537	211,537	-	1,368	-	1,368
67	552,070	166,632	166,632	-	998	-	998
68	423,067	130,252	130,252	-	722	-	722
69	321,550	100,996	100,996	-	519	-	519
70	242,316	77,645	77,645	-	369	-	369
71	181,010	59,162	59,162	-	260	-	260
72	134,007	44,674	44,674	-	182	-	182
73	98,301	33,397	33,397	-	126	-	126
74	71,458	24,766	24,766	-	87	-	87
75	51,437	18,197	18,197	-	59	-	59
76	36,641	13,251	13,251	-	40	-	40
77	25,802	9,555	9,555	-	27	-	27
78	17,936	6,806	6,806	-	17	-	17
79	12,298	4,786	4,786	-	11	-	11
80	8,308	3,319	3,319	-	7	-	7
81	5,523	2,264	2,264	-	5	-	5
82	3,612	1,530	1,530	-	3	-	3
83	2,311	1,014	1,014	-	2	-	2
84	1,442	657	657	-	1	-	1
85	874	422	422	-	1	-	1
86	506	262	262	-	-	-	-
87	274	153	153	-	-	-	-
88	137	86	86	-	-	-	-
89	58	40	40	-	-	-	-
90	22	22	22	-	-	-	-
91	0	1	0	-	-	-	-
92	-	-	-	-	-	-	-
93	-	-	-	-	-	-	-
94	-	-	-	-	-	-	-
95	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-
97	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-
99	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-
<b>Totals</b>					<b>\$ 525,120,117</b>	<b>\$ -</b>	<b>\$ 525,120,117</b>

**JUDGES**



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## **SECTION D**

### **GLOSSARY OF TERMS**

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Auditor's Note – This information is subject to the System's auditor's review. Please let us know if the System's auditor recommends any changes.

## GLOSSARY OF TERMS

<b><i>Actuarial Accrued Liability (AAL)</i></b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b><i>Actuarial Assumptions</i></b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## GLOSSARY OF TERMS

<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Amortization Method</i></b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b><i>Covered-Employee Payroll</i></b>	The payroll of covered employees, which is typically only the pensionable pay.
<b><i>Deferred Retirement Option Program (DROP)</i></b>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<b><i>Deferred Inflows and Outflows</i></b>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<b><i>Discount Rate</i></b>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> <li>1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li> <li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li> </ol>

## GLOSSARY OF TERMS

<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<b><i>Long-Term Expected Rate of Return</i></b>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<b><i>Money-Weighted Rate of Return</i></b>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></b>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<b><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contribution entities.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

## GLOSSARY OF TERMS

<b><i>Other Postemployment Benefits (OPEB)</i></b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b><i>Total Pension Expense</i></b>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:</p> <ol style="list-style-type: none"> <li>1. Service Cost</li> <li>2. Interest on the Total Pension Liability</li> <li>3. Current-Period Benefit Changes</li> <li>4. Employee Contributions (made negative for addition here)</li> <li>5. Projected Earnings on Plan Investments (made negative for addition here)</li> <li>6. Pension Plan Administrative Expense</li> <li>7. Other Changes in Plan Fiduciary Net Position</li> <li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li> <li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li> </ol>
<b><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.