Gabriel Roeder Smith & Company
Consultants & Actuaries

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION OF MINNESOTA
LOCAL GOVERNMENT CORRECTIONAL SERVICE RETIREMENT PLAN
GASB STATEMENTS NO. 67 AND NO. 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS
JUNE 30, 2015

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November 25, 2015

Public Employees Retirement Association of Minnesota
Local Government Correctional Service Retirement Plan
St. Paul, Minnesota

Dear Trustees of the Local Government Correctional Service Retirement Plan:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 for the Local Government Correctional Service Retirement Plan ("LGCSRP"). These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

GASB Statement No. 67 is the accounting standard that applies to the financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statements No. 67 and No. 68. The 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. 67 may produce significantly different results. The information in this report is calculated on a total plan basis. PERA is responsible for preparing the Schedule of Employer Allocations and the Schedule of Pension Amounts by Employer. This report may be provided to parties other than the Public Employees Retirement Association (PERA) only in its entirety and only with the permission of PERA.

This report is based upon information, furnished to us by PERA, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

The signing actuaries are independent of the plan sponsor.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Local Government Correctional Service Retirement Plan as of the measurement date. 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. Brian B. Murphy and Bonita J. Wurst 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,

By Brian B Murphy
Brian B. Murphy
FSA, ASA, EA, MAAA

By Bonita J. Wurst
Bonita J. Wurst
ASA, FSA, EA, MAAA

OTHER OBSERVATIONS

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words of transferring the obligations to a unrelated third party in an arm's length market value type transaction.

(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF JUNE 30, 2015 (DOLLARS IN THOUSANDS)

		2015
Actuarial Valuation Date		June 30, 2015
Measurement Date of the Net Pension Liability		June 30, 2015
Employer's Fiscal Year Ending Date (Reporting Date)		Varies by Employer
Membership		
Number of		
- Service Retirements		655
- Survivors		40
- Disability Retirements		169
- Deferred Retirements		2,620
- Terminated other non-vested		2,139
- Active Members		3,692
- Total		9,315
Covered Payroll	$	179,623
Net Pension Liability		
Total Pension Liability	$	506,191
Plan Fiduciary Net Position		490,732
Net Pension Liability	$	15,459
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		96.95%
Net Pension Liability as a Percentage of Covered Payroll		8.62%
Development of the Single Discount Rate		
Single Discount Rate		7.90%
Long-Term Expected Rate of Investment Return		7.90%
Long-Term Municipal Bond Rate*		3.80%
Last year ending June 30 in the 2016 to 2115 projection period for which projected benefit payments are fully funded		2115
Total Pension Expense/ (Income)	**$**	**(1,151)**

Deferred Outflows and Inflows by Source Arising from Current and Prior Periods to be recognized in Future Pension Expenses

		Deferred Outflows of Resources		Deferred Inflows of Resources
Difference between expected and actual experience	$	0	$	8,582
Changes in assumptions		0		17,084
Net difference between projected and actual earnings on pension plan investments		12,887		23,882
Total	$	12,887	$	49,548

** Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 25, 2015 (i.e., the weekly rate closest to but not later than the Measurement Date).*

DISCUSSION

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans* establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* establishes standards for state and local government employers (as well as non-employer contributing entities) to 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, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state and local governmental employers to recognize the net pension liability and the pension expense on their financial statements. 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).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to LGCSRP subsequent to the measurement date of June 30, 2015.

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 liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a Statement of Fiduciary Net Position and a Statement of Changes in Fiduciary Net Position in accordance with GASB Statement No. 67. The *Statement of Fiduciary Net Position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *Statement of Changes in Fiduciary Net Position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

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

Both GASB Statements No. 67 and No. 68 require the notes to the financial statements for the employers and pension plans to include certain descriptive information about the pension plans through which the pension benefits are provided. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the classes of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's 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 the current discount rate used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with Statement No. 67. This information includes:

- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 67 requires a 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 the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. 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, 2015 and a measurement date of June 30, 2015.

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 (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 long-term expected rate of return on pension plan investments is 7.900%; the municipal bond rate is 3.800% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve Board); and the resulting single discount rate is 7.900%.

Effective Date and Transition

GASB Statements No. 67 and No. 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively. Earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

PENSION EXPENSE UNDER GASB STATEMENT NO. 68
FISCAL YEAR ENDED JUNE 30, 2015 (DOLLARS IN THOUSANDS)

A. Expense

1.	Service Cost	$	25,098
2.	Interest on the Total Pension Liability		37,043
3.	Current-Period Benefit Changes		0
4.	Employee Contributions (made negative for addition here)		(10,472)
5.	Projected Earnings on Plan Investments (made negative for addition here)		(36,482)
6.	Pension Plan Administrative Expense		247
7.	Other Changes in Plan Fiduciary Net Position		1
8.	Recognition of Outflow (Inflow) of Resources due to differences between expected and actual experience in the measurement of the Total Pension Liability		
	Arising from Current Reporting Period		(1,973)
9.	Recognition of Outflow (Inflow) of Resources due to assumption changes		
	Arising from Current Reporting Period		0
10.	Recognition of Outflow (Inflow) of Resources due to the difference between projected (7.90%) and actual earnings on Pension Plan Investments		
	Arising from Current Reporting Period		3,222
11.	**Increase/(Decrease) from Experience in the Current Reporting Period**	**$**	**16,684**
12.	Recognition of Outflow (Inflow) of Resources due to differences between expected and actual experience in the measurement of the Total Pension Liability		
	Arising from Prior Reporting Periods		(1,332)
13.	Recognition of Outflow (Inflow) of Resources due to assumption changes		
	Arising from Prior Reporting Periods		(8,542)
14.	Recognition of Outflow (Inflow) of Resources due to the difference between projected (7.90%) and actual earnings on Pension Plan Investments		
	Arising from Prior Reporting Periods		(7,961)
15.	**Total Pension Expense / (Income)**	**$**	**(1,151)**

(1) *Service cost and interest on Total Pension Liability are fully offset by decreases in Net Pension Liability, primarily due to recognition of prior inflows in the current period due to assumption changes and better than expected return on market value of assets.*

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD FISCAL YEAR ENDED JUNE 30, 2015 (DOLLARS IN THOUSANDS)

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(7,892)
2. Assumption Changes (gains) or losses		0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4
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	$	(1,973)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes		0
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	(1,973)
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	$	(5,919)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes		0
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	(5,919)
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	16,109
2. Recognition period for Assets {in years}		5
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	3,222
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	12,887

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS FISCAL YEAR ENDED JUNE 30, 2015 (DOLLARS IN THOUSANDS)

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	$ 0	$ 11,847	$ (11,847)
2. Due to Assets	3,222	7,961	(4,739)
3. Total	$ 3,222	$ 19,808	$ (16,586)

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	$ 0	$ 3,305	$ (3,305)
2. Assumption Changes	0	8,542	(8,542)
3. Net Difference between projected and actual earnings on pension plan investments	3,222	7,961	(4,739)
4. Total	$ 3,222	$ 19,808	$ (16,586)

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	$ 0	$ 8,582	$ (8,582)
2. Assumption Changes	0	17,084	(17,084)
3. Net Difference between projected and actual earnings on pension plan investments	12,887	23,882	(10,995)
4. Total	$ 12,887	$ 49,548	$ (36,661)

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
2016	$ (16,586)
2017	(16,585)
2018	(6,711)
2019	3,221
2020	0
Thereafter	0
Total	$ (36,661)

STATEMENT OF FIDUCIARY NET POSITION
(DOLLARS IN THOUSANDS)

	Market Value	
Assets in Trust	**June 30, 2015**	**June 30, 2014**
Cash, equivalents, short term securities	$ 9,901	$ 12,591
Fixed income	115,387	105,666
Equity	304,773	277,713
SBI Alternative	60,509	57,118
Other	0	0
Total Assets in Trust	**$ 490,570**	**$ 453,088**
Assets Receivable	420	400
Amounts Payable	(259)	(256)
Net Position Restricted for Pensions	**$ 490,731**	**$ 453,232**

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION (DOLLARS IN THOUSANDS)

Change in Assets	**Market Value**	
Year Ending	**June 30, 2015**	**June 30, 2014**
1. Fund balance at market value at beginning of year	$ 453,232	$ 366,750
2. Adjustment to match beginning of year asset statement	(1)	N/A
3. Fund balance at market value at beginning of year	453,231	366,750
4. Contributions		
a. Member	10,472	10,030
b. Employer	15,736	15,054
c. Other sources	0	0
d. Total contributions	26,208	25,084
5. Investment income		
a. Investment income/(loss)	21,039	70,079
b. Investment expenses	(666)	(628)
c. Net subtotal	20,373	69,451
6. Other	0	0
7. Total additions: *(4.d.) + (5.c.) + (6.)*	**$ 46,581**	**$ 94,535**
8. Benefits Paid		
a. Annuity benefits	(7,777)	(6,711)
b. Refunds	(1,057)	(1,105)
c. Total benefits paid	(8,834)	(7,816)
9. Expenses		
a. Other	0	(1)
b. Administrative	(247)	(236)
c. Total expenses	(247)	(237)
10. Total deductions: *(8.c.) + (9.c.)*	**(9,081)**	**(8,053)**
11. Net increase (decrease) in net position: *(7.) + (10.)*	37,500	86,482
12. Net position restricted for pensions	**$ 490,731**	**$ 453,232**
13. Approximate return on market value of assets	4.4%	18.4%

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
CURRENT PERIOD
FISCAL YEAR ENDED JUNE 30, 2015 (DOLLARS IN THOUSANDS)

A. Total pension liability		
1. Service Cost	$	25,098
2. Interest on the Total Pension Liability		37,043
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		(7,892)
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(8,834)
7. Net change in total pension liability	$	45,415
8. Total pension liability – beginning		460,776
9. Total pension liability – ending	**$**	**506,191**
B. Plan fiduciary net position		
1. Contributions – employer	$	15,736
2. Contributions – employee		10,472
3. Net investment income		20,373
4. Benefit payments, including refunds of employee contributions		(8,834)
5. Pension Plan Administrative Expense		(247)
6. Other		(1)
7. Net change in plan fiduciary net position	$	37,499
8. Plan fiduciary net position – beginning		453,232
9. Plan fiduciary net position – ending	**$**	**490,731**
C. Net pension liability	**$**	**15,460**
D. Plan fiduciary net position as a percentage of the total pension liability		**96.95%**
E. Covered-employee payroll	**$**	**179,623**
F. Net pension liability as a percentage of covered employee payroll		**8.61%**

The covered payroll shown represents the annual compensation for active employees on which contributions to the pension plan are based and does not necessarily represent Covered Payroll as defined in GASB Statements No. 67 and No. 68.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS MULTIYEAR (DOLLARS IN THOUSANDS)

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total Pension Liability										
Service Cost	$ 25,098	$ 26,488								
Interest on the Total Pension Liability	37,043	33,955								
Benefit Changes	0	0								
Difference between Expected and Actual Experience	(7,892)	(5,327)								
Assumption Changes	0	(34,168)								
Benefit Payments	(7,777)	(6,711)								
Refunds	(1,057)	(1,105)								
Net Change in Total Pension Liability	45,415	13,132								
Total Pension Liability - Beginning	460,776	447,644								
Total Pension Liability - Ending (a)	$ 506,191	$ 460,776								
Plan Fiduciary Net Position										
Employer Contributions	$ 15,736	$ 15,054								
Employee Contributions	10,472	10,030								
Pension Plan Net Investment Income	20,373	69,451								
Benefit Payments	(7,777)	(6,711)								
Refunds	(1,057)	(1,105)								
Pension Plan Administrative Expense	(247)	(236)								
Other	(1)	(1)								
Net Change in Plan Fiduciary Net Position	37,499	86,482								
Plan Fiduciary Net Position - Beginning	453,233	366,750								
Plan Fiduciary Net Position - Ending (b)	$ 490,732	$ 453,232								
Net Pension Liability - Ending (a) - (b)	15,459	7,544								
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	96.95 %	98.36 %								
Covered Employee Payroll	$ 179,623	$ 172,041								
Net Pension Liability as a Percentage of Covered Employee Payroll	8.61 %	4.39 %								

Notes to Schedule:

N/A

The covered payroll shown represents the annual compensation for active employees on which contributions to the pension plan are based and does not necessarily represent Covered Payroll as defined in GASB Statements No. 67 and No. 68.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE NET PENSION LIABILITY MULTIYEAR
(DOLLARS IN THOUSANDS)

Last 10 Fiscal Years (which may be built prospectively)

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2006						
2007						
2008						
2009						
2010						
2011						
2012						
2013						
2014	$ 460,776	$ 453,232	$ 7,544	98.36%	$ 172,041	4.39%
2015	506,191	490,731	15,460	96.95%	179,623	8.61%

The covered payroll shown represents the annual compensation for active employees on which contributions to the pension plan are based and does not necessarily represent Covered Payroll as defined in GASB Statements No. 67 and No. 68.

SCHEDULE OF CONTRIBUTIONS MULTIYEAR *(DOLLARS IN THOUSANDS)*

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2006	$ 8,507	$ 11,826	$ (3,319)	$ 125,189	9.45%
2007	8,712	12,499	(3,787)	134,117	9.32
2008	10,153	13,388	(3,235)	154,202	8.68
2009	11,469	14,124	(2,655)	154,650	9.13
2010	12,273	14,170	(1,897)	154,777	9.16
2011	12,183	14,289	(2,106)	165,077	8.66
2012	12,473	14,320	(1,847)	164,340	8.71
2013	14,207	14,498	(291)	164,820	8.80
2014	14,606	15,054	(448)	172,041	8.75
2015	13,759	15,736	(1,977)	179,623	8.76

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	June 30, 2015
Notes	Actuarially determined contribution rates are calculated as of each July 1 and apply to the fiscal year beginning on the measurement date.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	16 years
Asset Valuation Method	5-Year smoothed market; no corridor
Inflation	2.75%
Salary Increases	3.75% to 8.75% including inflation
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 2006 - 2011, prepared by a former actuary.
Mortality	RP-2000 annuitant generational mortality table, projected with scale AA, white collar adjustment.

Other Information:

Notes	The plan is assumed to pay a 2.5% post-retirement benefit increase for all years. See separate funding report as of July 1, 2015 for additional detail.

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

FY Ending June 30,	Annual Return[1]
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

[1] *Annual money-weighted rate of return, net of investment expenses.*

It is our understanding that this exhibit will be prepared by PERA with assistance from the State Board of Investment. Please provide a copy of the final exhibit for our files.

SECTION D

ADDITIONAL FINANCIAL STATEMENT DISCLOSURES

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Fixed Income		
International Fixed Income		
Domestic Equity		
International Equity		
Private Equity		
Real Estate		
Commodities		
Cash		
Total		

It is our understanding that this exhibit will be prepared by PERA with assistance from the State Board of Investment. Please provide a copy of the final exhibit for our files.

Single Discount Rate

A single discount rate of 7.900% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.900%. The projection of cash flows used to determine this single discount rate assumed that plan member and employer contributions will be made at the current statutory contribution rates. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.900%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

(Dollars in Thousands)

	1% Decrease 6.90%	Current Single Discount Rate Assumption 7.90%	1% Increase 8.90%
Total Pension Liability	$ 598,397	$ 506,191	$ 432,389
Net Position Restricted for Pensions	490,731	490,731	490,731
Net Pension Liability	**$ 107,666**	**$ 15,460**	**$ (58,342)**

GASB Statement No. 68 Reconciliation (Dollars in Thousands)
Current Reporting Period

				Current Period		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)	Deferred Outflows	Deferred Inflows	Pension Expense
ce Beginning of Year	**$ 460,776**	**$ 453,232**	**$ 7,544**			
ges for the Year:						
Service Cost	$ 25,098		$ 25,098			$ 25,098
Interest on Total Pension Liability	37,043		37,043			37,043
Interest on Fiduciary Net Position		$ 36,482	(36,482)			(36,482)
Changes in Benefit Terms						
Liability Experience Gains and Losses	(7,892)		(7,892)		$ 5,919	(1,973)
Changes in Assumptions						
Contributions - Employer		15,736	(15,736)			
Contributions - Employees		10,472	(10,472)			(10,472)
Asset Gain/(Loss)		(16,109)	16,109	$ 12,887		3,222
Benefit Payouts	(8,834)	(8,834)				
Administrative Expenses		(247)	247			247
Other		(1)	1			1
hanges	**$ 45,415**	**$ 37,499**	**$ 7,916**	**$ 12,887**	**$ 5,919**	**$ 16,684**
ce End of Year	**$ 506,191**	**$ 490,731**	**$ 15,460**	**$ 12,887**	**$ 5,919**	

GASB Statement No. 68 Reconciliation (Dollars in Thousands) Current and Prior Reporting Periods

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)	Deferred Outflows	Deferred Inflows	Net Deferred Outflows Prior Year	Total Pension Expense
Balance Beginning of Year	**$ 460,776**	**$ 453,232**	**$ 7,544**				
Changes for the Year:							
Service Cost	$ 25,098		$ 25,098				$ 25,098
Interest on Total Pension Liability	37,043		37,043				37,043
Interest on Fiduciary Net Position		$ 36,482	(36,482)				(36,482)
Changes in Benefit Terms							
Liability Experience Gains and Losses	(7,892)		(7,892)		$ 8,582	$ (3,995)	(3,305)
Changes in Assumptions					17,084	(25,626)	(8,542)
Contributions - Employer		15,736	(15,736)				
Contributions - Employees		10,472	(10,472)				(10,472)
Asset Gain/(Loss)		(16,109)	16,109	$ 12,887	23,882	(31,843)	(4,739)
Benefit Payouts	(8,834)	(8,834)					
Administrative Expenses		(247)	247				247
Other		(1)	1				1
Net Changes	**$ 45,415**	**$ 37,499**	**$ 7,916**	**$ 12,887**	**$ 49,548**	**$ (61,464)**	**$ (1,151)**
Balance End of Year	**$ 506,191**	**$ 490,731**	**$ 15,460**	**$ 12,887**	**$ 49,548**	**$ (61,464)**	

SUMMARY OF POPULATION STATISTICS

		Terminated		Recipients			
	Actives	Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivor	Total
Members on 7/1/2014	**3,603**	**2,380**	**1,936**	**571**	**162**	**36**	**8,688**
New members	633	0	0	0	0	0	**633**
Return to active	29	(15)	(14)	0	0	0	**0**
Terminated non-vested	(250)	0	250	0	0	0	**0**
Service retirements	(61)	(27)	0	88	0	0	**0**
Terminated deferred	(210)	210	0	0	0	0	**0**
Terminated refund/transfer	(40)	(38)	(29)	0	0	0	**(107)**
Deaths	(3)	(3)	(2)	(6)	(4)	0	**(18)**
New beneficiary	0	0	0	0	0	5	**5**
Disabled	(9)	0	0	0	9	0	**0**
Data correction	0	113	(2)	2	2	(1)	**114**
Net change	89	240	203	84	7	4	**627**
Members on 6/30/2015	**3,692**	**2,620**	**2,139**	**655**	**169**	**40**	**9,315**

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF PLAN PROVISIONS

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30.
Eligibility	Local government employees in covered correctional service for a county administered jail or correctional facility or in a regional correctional facility administered by multiple counties, who are directly responsible for security, custody and control of persons confined in jail or facility, who are expected to respond to incidents within the jail or facility, and who are not members of the Public Employees Police and Fire Fund.
Contributions	Shown as a percent of salary: <u>Member</u> 5.83% <u>Employer</u> 8.75% Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Local Government Correctional Service during which member contributions were made (effective July 1, 1999). May also include certain leaves of absence, military service and periods while temporary Worker's Compensation is paid.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leaves and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average salary	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after 3 years of Allowable Service. Hired after June 30, 2010: 50% vested after 5 years of Allowable Service; 60% vested after 6 years of Allowable Service; 70% vested after 7 years of Allowable Service; 80% vested after 8 years of Allowable Service; 90% vested after 9 years of Allowable Service; 100% vested after 10 years of Allowable Service.
Retirement	
<u>Normal retirement benefit</u>	
Age/service requirement	Age 55 and vested. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount	1.9% of Average Salary for each year of Allowable Service, pro rata for completed months.

SUMMARY OF PLAN PROVISIONS (CONTINUED)

Retirement (Continued)

<u>Early Retirement</u>

Age/service requirement	Age 50 and vested.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with actuarial reduction to commencement age assuming 3% augmentation to age 55 (2.50% if hired after June 30, 2006).
<u>Form of payment</u>	Life annuity. Actuarially equivalent options are: 25%, 50%, 75% or 100% Joint and Survivor. If a Joint and Survivor benefit is elected and the beneficiary predeceases the annuitant, the annuitant's benefit increases to the Life Annuity amount. This "bounce back" is subsidized by the plan.
<u>Benefit increases</u>	Benefit recipients received a post-retirement benefit increase of 1.0% on January 1, 2013 and January 1, 2014. Because the actuarial accrued liability funding ratio (on a market value of assets basis) reached 90% for two consecutive years, the benefit increase reverted to 2.5% on January 1, 2015. If the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%. A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of June 30 will receive a pro rata increase.

Disability

<u>Duty Disability</u>

Age/service requirement	Member who cannot perform his duties as a direct result of a disability relating to an act of duty specific to protecting the property and personal safety of others.
Amount	47.50% of Average Salary plus 1.90% of Average Salary for each year in excess of 25 years of Allowable Service (pro rata for completed months). Payment begins at disability and ends at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

<u>Regular Disability</u>

Age/service requirement	At least one year of Allowable Service and a disability preventing member from performing normal duties that arise out of activities not related to covered employment or while at work, activities related to duties that do not present inherent dangers specific to occupation.

SUMMARY OF PLAN PROVISIONS (CONTINUED)

Disability (Continued)	
Amount	Normal Retirement Benefit based on Allowable Service (minimum of 10 years) and Average Salary at disability. Payment begins at disability and ends at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.
<u>Retirement benefit</u>	
Age/service requirement	Age 65 with continued disability.
Amount	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 65 or the normal retirement benefit available at age 65, or an actuarially equivalent optional annuity.
<u>Form of payment</u>	Same as for retirement.
<u>Benefit increases</u>	Same as for retirement.
Death	
<u>Surviving spouse benefit</u>	
Age/service requirement	Vested active member at any age or vested former member age 50 or older who dies before retirement or disability benefit commences. If an active member dies, benefits may commence immediately, regardless of age.
Amount	Surviving spouse receives the 100% joint and survivor benefit using the Normal Retirement formula above. If commencement is prior to age 55, the appropriate early retirement formula described above applies except that one-half the monthly reduction factor is used from age 50 to the commencement age. In lieu of this benefit, the surviving spouse may elect a refund of contributions with interest or an actuarially equivalent term certain annuity (lump sum payable to estate at death).
Benefit increases	Same as for retirement.
<u>Surviving dependent children's benefit</u>	
Age/service requirement	If no surviving spouse, all dependent children (biological or adopted) below age 20 who are dependent for more than half of their support on deceased member.
Amount	Actuarially equivalent to surviving spouse 100% joint and survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving children.
<u>Refund of contributions</u>	
Age/service requirement	Active employee dies and survivor benefits paid are less than member's contributions or a former employee dies before annuity begins.

SUMMARY OF PLAN PROVISIONS (CONTINUED)

Death (Continued)	
Amount	If no survivor benefits are paid, the member's contributions with 6.00% interest until June 30, 2011; 4.00% interest thereafter. If survivor benefits are paid and accumulated contributions exceed total payments to the surviving spouse and children, then the remaining contributions are paid out.
Termination	
Refund of contributions	
Age/service requirement	Termination of local government service.
Amount	If member terminated before July 1, 2011, member's contributions with 6.00% interest compounded annually until June 30, 2011; 4.00% interest thereafter. If member terminated after June 30, 2011, member's contributions credited with 4% interest compounded annually.
Deferred benefit	
Age/service requirement	A deferred annuity may be elected in lieu of a refund if vested. Partially or fully vested.
Amount	Benefit computed under law in effect at termination and increased by the following percentage (augmentation), compounded annually, if termination of employment is prior to January 1, 2012: (a.) 3.00% (2.50% if hired after June 30, 2006) until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012; (b.) 5.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of the date the annuity begins and January 1, 2012; and (c.) 1.00% from January 1, 2012 thereafter. If a member terminates employment after 2011, they are not eligible for augmentation.
Form of payment	Same as for retirement.
Optional form conversion factors	Actuarially equivalent factors based on the RP-2000 mortality table for healthy annuitants, white collar adjustment, projected to 2026 using scale AA, no setbacks, blended 65% males and 6.0% interest. The interest rate assumption will change to 6.5% on the earlier of the effective date of the next mortality adjustment or July 1, 2017.

SUMMARY OF PLAN PROVISIONS (CONCLUDED)

Combined service annuity	Members are eligible for combined service benefits if they: (a.) Meet minimum retirement age for each plan participated in and total public service meets the vesting requirements of each plan; or (b.) Have three or more years of service under PERA and the covered fund(s) (if hired prior to July 1, 2010). Other requirements for combined service include: (a.) Member must have at least six months of allowable service credit in each plan worked under; and (b.) Member may not be in receipt of a benefit from another plan. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.
Changes in plan provisions	None.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

ACTUARIAL METHODS

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Total Pension Liability.

Valuation of Future Post-Retirement Benefit Increases

Benefit recipients receive a future annual 2.5% post-retirement benefit increase. If the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.

Based on the assumptions and methods in this report, this plan is expected to pay the 2.5% benefit increases indefinitely.

Decrement Timing

All decrements are assumed to occur mid-year.

Asset Valuation Method

Fair value of assets.

SUMMARY OF ACTUARIAL ASSUMPTIONS

The following assumptions were used in valuing the liabilities and benefits under the Plan. The assumptions are based on the last experience study, dated February 2012, prepared by a former actuary and an economic assumption review dated September 11, 2014.

The Allowance for Combined Service Annuity was also based on a recommendation by a former actuary. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of the assignment.

Investment return	7.9% per annum
Single discount rate	7.9% per annum
Benefit increases after retirement	2.5% per annum.
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year.
Inflation	2.75% per year.
Payroll growth	3.50% per year.
Mortality rates	
Healthy Pre-retirement	RP-2000 employee generational mortality table projected with mortality improvement scale AA, white collar adjustment.
Healthy Post-retirement	RP-2000 annuitant generational mortality table projected with mortality improvement scale AA, white collar adjustment. The RP-2000 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. We have applied the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the employee mortality table for annuitants younger than age 50.
Disabled	RP-2000 disabled mortality table.
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year.
Withdrawal	Select and Ultimate rates based on actual experience. Ultimate rates after the third year are shown in rate table. Select rates in the first three years are:

Year	Select Withdrawal Rates
1	25%
2	20%
3	15%

SUMMARY OF ACTUARIAL ASSUMPTIONS (CONTINUED)

Disability	Age-related rates based on experience; see table of sample rates. All incidences are assumed to be duty-related.
Allowance for combined service annuity	Liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll.
Refund of contributions	Account balances accumulate interest until normal retirement date and are discounted back to the valuation date. All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55.
Percentage married	85% of active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Females are assumed to be three years younger than their male spouses. For members in payment status, actual spouse date of birth is used, if provided.
Eligible children	Retiring members are assumed to have no dependent children.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 5% elect 25% Joint & Survivor option 10% elect 50% Joint & Survivor option 10% elect 75% Joint & Survivor option 35% elect 100% Joint & Survivor option Females: 5% elect 25% Joint & Survivor option 5% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 5% elect 100% Joint & Survivor option Remaining married members and unmarried members are assumed to elect the Straight Life option. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility.
Service credit accruals	It is assumed that members accrue one year of service credit per year.

SUMMARY OF ACTUARIAL ASSUMPTIONS (CONTINUED)

Unknown data for certain members	To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided. In cases where submitted data was missing or incomplete, the following assumptions were applied: <u>Data for active members:</u> There were 18 members reported with zero salary. We used prior year salary (14 members), if available; otherwise high five salary with a 10% load to account for salary increases (three members). If neither prior year salary or high five salary was available, we assumed a value of $35,000 (one member). There were also 26 members reported without a gender and one member reported without a date of birth. We assumed an entry age of 31 and male gender. <u>Data for terminated members:</u> We calculated benefits for these members using the reported Average Salary and credited service. There were no members reported without Average Salary. If credited service was not reported (25 members), we used elapsed time from hire date to termination date (15 members), otherwise we assumed nine years of service (10 members). If termination date was not reported (11 members), we assumed the termination date was equal to the hire date plus credited service, otherwise the valuation date. There were no members reported without a date of birth. There were two members reported without a gender; male was assumed. <u>Data for retired members:</u> There were no members reported without a date of birth, gender or benefit.
Changes in actuarial assumptions	None.

SUMMARY OF ACTUARIAL ASSUMPTIONS (CONTINUED)

	Rate (%)*					
	Healthy Post-Retirement Mortality**		Healthy Pre-Retirement Mortality**		Disability Mortality	
Age	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.03%	0.02%	2.26%	0.75%
25	0.04	0.02	0.04	0.02	2.26	0.75
30	0.04	0.03	0.04	0.03	2.26	0.75
35	0.06	0.05	0.06	0.05	2.26	0.75
40	0.09	0.06	0.09	0.06	2.26	0.75
45	0.13	0.10	0.13	0.10	2.26	0.75
50	0.60	0.24	0.20	0.16	2.90	1.15
55	0.54	0.35	0.27	0.24	3.54	1.65
60	0.66	0.56	0.43	0.38	4.20	2.18
65	1.16	0.91	0.67	0.59	5.02	2.80
70	1.93	1.52	0.98	0.88	6.26	3.76

* *Generally, mortality rates are expected to increase as age increases. Due to the combination of pre-retirement rates, post-retirement rates, the white collar adjustment, and Projection Scale AA, the prescribed mortality tables have a few ages where assumed mortality decreases slightly instead of increases. We have used the rates as prescribed, but we note that although the prescribed assumption is reasonable in total, it may not be reasonable at every age. If the rates were reasonably adjusted so that they decreased at all ages, we would not expect the valuation results to be materially different.*

** *These rates were adjusted for mortality improvements using projection scale AA.*

	Withdrawal Rates		Disability Retirement	
Age	Male	Female	Male	Female
20	14.70%	14.20%	0.04%	0.04%
25	14.70%	14.20%	0.06%	0.06%
30	9.10%	11.40%	0.10%	0.08%
35	6.00%	8.60%	0.18%	0.11%
40	4.40%	6.90%	0.23%	0.18%
45	3.40%	4.30%	0.34%	0.39%
50	2.40%	3.10%	0.55%	0.70%
55	1.40%	2.20%	0.88%	1.18%
60	0.00%	0.00%	1.41%	2.41%
65	0.00%	0.00%	1.67%	2.67%

SUMMARY OF ACTUARIAL ASSUMPTIONS (CONCLUDED)

Age	Retirement
50	3%
51	2
52	2
53	2
54	5
55	20
56	8
57	8
58	8
59	8
60	15
61	15
62	30
63	30
64	30
65	40
66	40
67	40
68	40
69	40
70+	100

Salary Scale	
Age	Increase
20	8.75%
25	7.50
30	6.50
35	6.00
40	5.50
45	4.75
50	4.75
55	4.50
60	4.00
65	3.75
70+	3.75

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

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 long-term expected rate of return 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 calculation, the expected rate of return on pension plan investments is 7.900%; the municipal bond rate is 3.800%; and the resulting single discount rate is 7.900%.

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.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS (DOLLARS IN THOUSANDS)

	Payroll			Projected Contributions			
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Contributions on Future Payroll Toward Current UAL*	Total Contributions
0	$ 179,623	$ 0	$ 179,623				
1	189,838	0	189,838	$ 11,068	$ 16,611	$ 0	$ 27,679
2	180,228	16,255	196,483	10,507	15,770	125	26,402
3	172,811	30,548	203,359	10,075	15,121	235	25,431
4	166,684	43,793	210,477	9,718	14,585	337	24,640
5	160,861	56,983	217,844	9,378	14,075	439	23,892
6	155,229	70,239	225,468	9,050	13,583	541	23,174
7	149,737	83,623	233,360	8,730	13,102	644	22,476
8	144,476	97,051	241,527	8,423	12,642	747	21,812
9	139,375	110,606	249,981	8,126	12,195	852	21,173
10	134,124	124,606	258,730	7,819	11,736	959	20,514
11	128,890	138,896	267,786	7,514	11,278	1,069	19,861
12	123,607	153,551	277,158	7,206	10,816	1,182	19,204
13	118,300	168,559	286,859	6,897	10,351	1,298	18,546
14	113,112	183,787	296,899	6,594	9,897	1,415	17,906
15	107,975	199,315	307,290	6,295	9,448	1,535	17,278
16	102,790	215,255	318,045	5,993	8,994	1,657	16,644
17	97,549	231,628	329,177	5,687	8,536	1,784	16,007
18	92,309	248,389	340,698	5,382	8,077	1,913	15,372
19	87,099	265,523	352,622	5,078	7,621	2,045	14,744
20	81,881	283,083	364,964	4,774	7,165	2,180	14,119
21	76,685	301,053	377,738	4,471	6,710	2,318	13,499
22	71,536	319,423	390,959	4,171	6,259	2,460	12,890
23	66,414	338,228	404,642	3,872	5,811	2,604	12,287
24	61,256	357,549	418,805	3,571	5,360	2,753	11,684
25	56,104	377,359	433,463	3,271	4,909	2,906	11,086
26	51,067	397,567	448,634	2,977	4,468	3,061	10,506
27	46,101	418,235	464,336	2,688	4,034	3,220	9,942
28	41,236	439,352	480,588	2,404	3,608	3,383	9,395
29	36,428	460,981	497,409	2,124	3,187	3,550	8,861
30	31,719	483,099	514,818	1,849	2,775	3,720	8,344
31	27,185	505,652	532,837	1,585	2,379	3,894	7,858
32	22,902	528,584	551,486	1,335	2,004	4,070	7,409
33	19,050	551,738	570,788	1,111	1,667	4,248	7,026
34	15,606	575,160	590,766	910	1,365	4,429	6,704
35	12,551	598,891	611,442	732	1,098	4,611	6,441
36	9,873	622,970	632,843	576	864	4,797	6,237
37	7,532	647,460	654,992	439	659	4,985	6,083
38	5,557	672,360	677,917	324	486	5,177	5,987
39	3,932	697,712	701,644	229	344	5,372	5,945
40	2,670	723,532	726,202	156	234	5,571	5,961
41	1,747	749,872	751,619	102	153	5,774	6,029
42	1,095	776,830	777,925	64	96	5,982	6,142
43	662	804,491	805,153	39	58	6,195	6,292
44	383	832,950	833,333	22	34	6,414	6,470
45	208	862,292	862,500	12	18	6,640	6,670
46	105	892,582	892,687	6	9	6,873	6,888
47	45	923,886	923,931	3	4	7,114	7,121
48	17	956,252	956,269	1	1	7,363	7,365
49	5	989,733	989,738	0	0	7,621	7,621
50	1	1,024,378	1,024,379	0	0	7,888	7,888

**Contributions related to future employees in excess of normal cost and expenses of 13.81% of pay.*

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS (DOLLARS IN THOUSANDS) (CONCLUDED)

	Payroll			Projected Contributions			
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Contributions on Future Payroll Toward Current UAL*	Total Contributions
51	$ 0	$ 1,060,232	$ 1,060,232	$ 0	$ 0	$ 8,164	$ 8,164
52	0	1,097,341	1,097,341	0	0	8,450	8,450
53	0	1,135,747	1,135,747	0	0	8,745	8,745
54	0	1,175,499	1,175,499	0	0	9,051	9,051
55	0	1,216,641	1,216,641	0	0	9,368	9,368
56	0	1,259,224	1,259,224	0	0	9,696	9,696
57	0	1,303,296	1,303,296	0	0	10,035	10,035
58	0	1,348,912	1,348,912	0	0	10,387	10,387
59	0	1,396,124	1,396,124	0	0	10,750	10,750
60	0	1,444,988	1,444,988	0	0	11,126	11,126
61	0	1,495,563	1,495,563	0	0	11,516	11,516
62	0	1,547,907	1,547,907	0	0	11,919	11,919
63	0	1,602,084	1,602,084	0	0	12,336	12,336
64	0	1,658,157	1,658,157	0	0	12,768	12,768
65	0	1,716,192	1,716,192	0	0	13,215	13,215
66	0	1,776,259	1,776,259	0	0	13,677	13,677
67	0	1,838,428	1,838,428	0	0	14,156	14,156
68	0	1,902,773	1,902,773	0	0	14,651	14,651
69	0	1,969,370	1,969,370	0	0	15,164	15,164
70	0	2,038,298	2,038,298	0	0	15,695	15,695
71	0	2,109,639	2,109,639	0	0	16,244	16,244
72	0	2,183,476	2,183,476	0	0	16,813	16,813
73	0	2,259,898	2,259,898	0	0	17,401	17,401
74	0	2,338,994	2,338,994	0	0	18,010	18,010
75	0	2,420,859	2,420,859	0	0	18,641	18,641
76	0	2,505,589	2,505,589	0	0	19,293	19,293
77	0	2,593,285	2,593,285	0	0	19,968	19,968
78	0	2,684,049	2,684,049	0	0	20,667	20,667
79	0	2,777,991	2,777,991	0	0	21,391	21,391
80	0	2,875,221	2,875,221	0	0	22,139	22,139
81	0	2,975,854	2,975,854	0	0	22,914	22,914
82	0	3,080,009	3,080,009	0	0	23,716	23,716
83	0	3,187,809	3,187,809	0	0	24,546	24,546
84	0	3,299,382	3,299,382	0	0	25,405	25,405
85	0	3,414,861	3,414,861	0	0	26,294	26,294
86	0	3,534,381	3,534,381	0	0	27,215	27,215
87	0	3,658,084	3,658,084	0	0	28,167	28,167
88	0	3,786,117	3,786,117	0	0	29,153	29,153
89	0	3,918,631	3,918,631	0	0	30,173	30,173
90	0	4,055,783	4,055,783	0	0	31,230	31,230
91	0	4,197,735	4,197,735	0	0	32,323	32,323
92	0	4,344,656	4,344,656	0	0	33,454	33,454
93	0	4,496,719	4,496,719	0	0	34,625	34,625
94	0	4,654,104	4,654,104	0	0	35,837	35,837
95	0	4,816,998	4,816,998	0	0	37,091	37,091
96	0	4,985,593	4,985,593	0	0	38,389	38,389
97	0	5,160,089	5,160,089	0	0	39,733	39,733
98	0	5,340,692	5,340,692	0	0	41,123	41,123
99	0	5,527,616	5,527,616	0	0	42,563	42,563
100	0	5,721,083	5,721,083	0	0	44,052	44,052

**Contributions related to future employees in excess of normal cost and expenses of 13.81% of pay.*

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION (DOLLARS IN THOUSANDS)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.90%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 490,731	$ 27,678	$ 11,712	$ 266	$ 39,376	$ 545,807
2	545,807	26,402	13,733	252	43,600	601,824
3	601,824	25,431	15,747	242	47,910	659,176
4	659,176	24,640	17,956	233	52,325	717,952
5	717,952	23,892	20,437	225	56,843	778,025
6	778,025	23,173	23,383	217	61,447	839,045
7	839,045	22,476	26,462	210	66,122	900,971
8	900,971	21,812	29,749	202	70,861	963,693
9	963,693	21,172	33,232	195	75,657	1,027,095
10	1,027,095	20,515	37,027	188	80,494	1,090,889
11	1,090,889	19,862	41,390	180	85,339	1,154,520
12	1,154,520	19,204	45,849	173	90,168	1,217,870
13	1,217,870	18,546	50,414	166	94,971	1,280,807
14	1,280,807	17,907	55,182	158	99,733	1,343,107
15	1,343,107	17,277	60,125	151	104,439	1,404,547
16	1,404,547	16,644	65,319	144	109,068	1,464,796
17	1,464,796	16,006	70,586	137	113,599	1,523,678
18	1,523,678	15,371	76,202	129	118,009	1,580,727
19	1,580,727	14,744	81,942	122	122,269	1,635,676
20	1,635,676	14,118	87,660	115	126,364	1,688,383
21	1,688,383	13,499	93,526	107	130,277	1,738,526
22	1,738,526	12,889	99,513	100	133,983	1,785,785
23	1,785,785	12,288	105,414	93	137,465	1,830,031
24	1,830,031	11,684	111,338	86	140,708	1,870,999
25	1,870,999	11,086	117,082	79	143,699	1,908,623
26	1,908,623	10,507	122,685	71	146,432	1,942,806
27	1,942,806	9,942	127,969	65	148,906	1,973,620
28	1,973,620	9,395	132,918	58	151,127	2,001,166
29	2,001,166	8,861	137,685	51	153,098	2,025,389
30	2,025,389	8,345	142,175	44	154,818	2,046,333
31	2,046,333	7,857	146,349	38	156,293	2,064,096
32	2,064,096	7,409	150,101	32	157,533	2,078,905
33	2,078,905	7,026	153,136	27	158,571	2,091,339
34	2,091,339	6,704	155,512	22	159,449	2,101,958
35	2,101,958	6,441	157,292	18	160,209	2,111,298
36	2,111,298	6,236	158,505	14	160,892	2,119,907
37	2,119,907	6,084	159,221	11	161,539	2,128,298
38	2,128,298	5,987	159,424	8	162,190	2,137,043
39	2,137,043	5,946	159,112	6	162,892	2,146,763
40	2,146,763	5,960	158,265	4	163,693	2,158,147
41	2,158,147	6,029	156,889	2	164,648	2,171,933
42	2,171,933	6,141	155,017	2	165,814	2,188,869
43	2,188,869	6,291	152,675	1	167,249	2,209,733
44	2,209,733	6,470	149,900	1	169,012	2,235,314
45	2,235,314	6,670	146,724	0	171,163	2,266,423
46	2,266,423	6,888	143,175	0	173,767	2,303,903
47	2,303,903	7,121	139,280	0	176,888	2,348,632
48	2,348,632	7,366	135,057	0	180,594	2,401,535
49	2,401,535	7,622	130,531	0	184,959	2,463,585
50	2,463,585	7,888	125,726	0	190,058	2,535,805

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION (DOLLARS IN THOUSANDS) (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.90%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 2,535,805	$ 8,164	$ 120,661	$ 0	$ 195,970	$ 2,619,278
52	2,619,278	8,450	115,355	0	202,781	2,715,154
53	2,715,154	8,745	109,833	0	210,580	2,824,646
54	2,824,646	9,051	104,121	0	219,464	2,949,040
55	2,949,040	9,368	98,248	0	229,530	3,089,690
56	3,089,690	9,696	92,246	0	240,887	3,248,027
57	3,248,027	10,035	86,144	0	253,645	3,425,563
58	3,425,563	10,387	79,982	0	267,923	3,623,891
59	3,623,891	10,750	73,802	0	283,845	3,844,684
60	3,844,684	11,126	67,649	0	301,540	4,089,701
61	4,089,701	11,516	61,569	0	321,147	4,360,795
62	4,360,795	11,919	55,609	0	342,810	4,659,915
63	4,659,915	12,336	49,818	0	366,681	4,989,114
64	4,989,114	12,768	44,243	0	392,921	5,350,560
65	5,350,560	13,215	38,928	0	421,698	5,746,545
66	5,746,545	13,677	33,916	0	453,193	6,179,499
67	6,179,499	14,156	29,248	0	487,596	6,652,003
68	6,652,003	14,651	24,951	0	525,110	7,166,813
69	7,166,813	15,164	21,048	0	565,951	7,726,880
70	7,726,880	15,695	17,550	0	610,352	8,335,377
71	8,335,377	16,244	14,459	0	658,564	8,995,726
72	8,995,726	16,813	11,766	0	710,858	9,711,631
73	9,711,631	17,401	9,455	0	767,527	10,487,104
74	10,487,104	18,010	7,499	0	828,889	11,326,504
75	11,326,504	18,641	5,871	0	895,289	12,234,563
76	12,234,563	19,293	4,538	0	967,103	13,216,421
77	13,216,421	19,968	3,465	0	1,044,737	14,277,661
78	14,277,661	20,667	2,612	0	1,128,635	15,424,351
79	15,424,351	21,391	1,946	0	1,219,278	16,663,074
80	16,663,074	22,139	1,432	0	1,317,186	18,000,967
81	18,000,967	22,914	1,042	0	1,422,925	19,445,764
82	19,445,764	23,716	749	0	1,537,106	21,005,837
83	21,005,837	24,546	532	0	1,660,392	22,690,243
84	22,690,243	25,405	374	0	1,793,500	24,508,774
85	24,508,774	26,294	259	0	1,937,203	26,472,012
86	26,472,012	27,215	177	0	2,092,337	28,591,387
87	28,591,387	28,167	119	0	2,259,807	30,879,242
88	30,879,242	29,153	79	0	2,440,587	33,348,903
89	33,348,903	30,173	52	0	2,635,731	36,014,755
90	36,014,755	31,230	33	0	2,846,375	38,892,327
91	38,892,327	32,323	21	0	3,073,746	41,998,375
92	41,998,375	33,454	13	0	3,319,168	45,350,984
93	45,350,984	34,625	8	0	3,584,070	48,969,671
94	48,969,671	35,837	5	0	3,869,993	52,875,496
95	52,875,496	37,091	3	0	4,178,602	57,091,186
96	57,091,186	38,389	2	0	4,511,692	61,641,265
97	61,641,265	39,733	1	0	4,871,200	66,552,197
98	66,552,197	41,123	0	0	5,259,218	71,852,538
99	71,852,538	42,563	0	0	5,678,000	77,573,101
100	77,573,101	44,052	0	0	6,129,982	83,747,135

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS (DOLLARS IN THOUSANDS)

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)
1	$ 490,731	$ 11,712	$ 11,712	$ 0	$ 11,275	$ 0	$ 11,275
2	545,808	13,733	13,733	0	12,253	0	12,253
3	601,824	15,747	15,747	0	13,021	0	13,021
4	659,177	17,956	17,956	0	13,760	0	13,760
5	717,952	20,437	20,437	0	14,515	0	14,515
6	778,026	23,383	23,383	0	15,392	0	15,392
7	839,046	26,462	26,462	0	16,143	0	16,143
8	900,973	29,749	29,749	0	16,819	0	16,819
9	963,695	33,232	33,232	0	17,413	0	17,413
10	1,027,098	37,027	37,027	0	17,981	0	17,981
11	1,090,891	41,390	41,390	0	18,628	0	18,628
12	1,154,521	45,849	45,849	0	19,124	0	19,124
13	1,217,871	50,414	50,414	0	19,489	0	19,489
14	1,280,808	55,182	55,182	0	19,770	0	19,770
15	1,343,108	60,125	60,125	0	19,964	0	19,964
16	1,404,549	65,319	65,319	0	20,100	0	20,100
17	1,464,798	70,586	70,586	0	20,131	0	20,131
18	1,523,679	76,202	76,202	0	20,141	0	20,141
19	1,580,728	81,942	81,942	0	20,073	0	20,073
20	1,635,677	87,660	87,660	0	19,901	0	19,901
21	1,688,385	93,526	93,526	0	19,679	0	19,679
22	1,738,528	99,513	99,513	0	19,405	0	19,405
23	1,785,787	105,414	105,414	0	19,051	0	19,051
24	1,830,033	111,338	111,338	0	18,648	0	18,648
25	1,871,001	117,082	117,082	0	18,175	0	18,175
26	1,908,625	122,685	122,685	0	17,650	0	17,650
27	1,942,807	127,969	127,969	0	17,062	0	17,062
28	1,973,620	132,918	132,918	0	16,425	0	16,425
29	2,001,168	137,685	137,685	0	15,768	0	15,768
30	2,025,391	142,175	142,175	0	15,090	0	15,090
31	2,046,335	146,349	146,349	0	14,396	0	14,396
32	2,064,098	150,101	150,101	0	13,684	0	13,684
33	2,078,908	153,136	153,136	0	12,938	0	12,938
34	2,091,342	155,512	155,512	0	12,177	0	12,177
35	2,101,961	157,292	157,292	0	11,415	0	11,415
36	2,111,302	158,505	158,505	0	10,661	0	10,661
37	2,119,912	159,221	159,221	0	9,925	0	9,925
38	2,128,303	159,424	159,424	0	9,210	0	9,210
39	2,137,049	159,112	159,112	0	8,519	0	8,519
40	2,146,769	158,265	158,265	0	7,853	0	7,853
41	2,158,153	156,889	156,889	0	7,215	0	7,215
42	2,171,938	155,017	155,017	0	6,607	0	6,607
43	2,188,875	152,675	152,675	0	6,031	0	6,031
44	2,209,739	149,900	149,900	0	5,487	0	5,487
45	2,235,320	146,724	146,724	0	4,978	0	4,978
46	2,266,429	143,175	143,175	0	4,502	0	4,502
47	2,303,909	139,280	139,280	0	4,059	0	4,059
48	2,348,637	135,057	135,057	0	3,648	0	3,648
49	2,401,541	130,531	130,531	0	3,267	0	3,267
50	2,463,591	125,726	125,726	0	2,917	0	2,917

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS (DOLLARS IN THOUSANDS) (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	$ 2,535,810	$ 120,661	$ 120,661	$ 0	$ 2,594	$ 0	$ 2,594
52	2,619,283	115,355	115,355	0	2,298	0	2,298
53	2,715,158	109,833	109,833	0	2,028	0	2,028
54	2,824,650	104,121	104,121	0	1,782	0	1,782
55	2,949,044	98,248	98,248	0	1,558	0	1,558
56	3,089,694	92,246	92,246	0	1,356	0	1,356
57	3,248,032	86,144	86,144	0	1,174	0	1,174
58	3,425,569	79,982	79,982	0	1,010	0	1,010
59	3,623,897	73,802	73,802	0	864	0	864
60	3,844,690	67,649	67,649	0	734	0	734
61	4,089,707	61,569	61,569	0	619	0	619
62	4,360,801	55,609	55,609	0	518	0	518
63	4,659,922	49,818	49,818	0	430	0	430
64	4,989,121	44,243	44,243	0	354	0	354
65	5,350,566	38,928	38,928	0	289	0	289
66	5,746,551	33,916	33,916	0	233	0	233
67	6,179,506	29,248	29,248	0	186	0	186
68	6,652,010	24,951	24,951	0	147	0	147
69	7,166,819	21,048	21,048	0	115	0	115
70	7,726,886	17,550	17,550	0	89	0	89
71	8,335,383	14,459	14,459	0	68	0	68
72	8,995,732	11,766	11,766	0	51	0	51
73	9,711,637	9,455	9,455	0	38	0	38
74	10,487,111	7,499	7,499	0	28	0	28
75	11,326,512	5,871	5,871	0	20	0	20
76	12,234,571	4,538	4,538	0	15	0	15
77	13,216,428	3,465	3,465	0	10	0	10
78	14,277,669	2,612	2,612	0	7	0	7
79	15,424,359	1,946	1,946	0	5	0	5
80	16,663,082	1,432	1,432	0	3	0	3
81	18,000,975	1,042	1,042	0	2	0	2
82	19,445,772	749	749	0	2	0	2
83	21,005,844	532	532	0	1	0	1
84	22,690,250	374	374	0	1	0	1
85	24,508,781	259	259	0	0	0	0
86	26,472,020	177	177	0	0	0	0
87	28,591,395	119	119	0	0	0	0
88	30,879,250	79	79	0	0	0	0
89	33,348,911	52	52	0	0	0	0
90	36,014,764	33	33	0	0	0	0
91	38,892,335	21	21	0	0	0	0
92	41,998,383	13	13	0	0	0	0
93	45,350,992	8	8	0	0	0	0
94	48,969,678	5	5	0	0	0	0
95	52,875,503	3	3	0	0	0	0
96	57,091,193	2	2	0	0	0	0
97	61,641,272	1	1	0	0	0	0
98	66,552,204	0	0	0	0	0	0
99	71,852,544	0	0	0	0	0	0
100	77,573,107	0	0	0	0	0	0
				Totals	$ 700,963	$ 0	$ 700,963

For purposes of this projection, we assumed the current fixed rate contributions would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	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.
Actuarial Cost Method	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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 benefit payments at predetermined rates of interest to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation	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 performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC)	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.

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Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	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.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	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.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay (meets the statutory salary definition) and does not include pay above any pay cap.
Deferred Inflows and Outflows of Resources	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.
Discount Rate or Single Discount Rate	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: 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 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.
Entry Age Actuarial Cost Method or Entry Age Normal (EAN)	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.

GLOSSARY OF TERMS

GASB	The Governmental Accounting Standards Board is an organization that exists with authority to promulgate accounting standards for state and local governmental entities.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
Long-Term Expected Rate of Return	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.
Money-Weighted Rate of Return	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.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	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.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	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 No. 67 and No. 68 plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.
Other Postemployment Benefits (OPEB)	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.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

GLOSSARY OF TERMS

Total Pension Expense The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Changes in Benefit Terms
4. Employee Contributions
5. Projected Earnings on Plan Investments
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to The difference between expected and actual measurement of the Total Pension Liability
9. Recognition of Outflow (Inflow) of Resources due to Assumption Changes
10. Recognition of Outflow (Inflow) of Resources due to the difference between projected and actual earnings in pension plan investments

Total Pension Liability (TPL) The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL) The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets The valuation assets are the plan fiduciary net position used in determining the net pension liability of the plan. For purposes of the GASB Statement No. 67, the asset valuation method is equal to the market value of assets.