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, 2016

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December 2, 2016

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"), as amended by Statement No. 82. 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. GASB Statement No. 82 is an amendment to Statements No. 67, No. 68, and No. 73, intended to improve consistency in the application of the accounting statements.

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 Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. 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. GRS is not responsible for unauthorized use of this report.

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 audited.

This report complements the actuarial valuation report for funding purposes that was or will be provided to the System and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 2016 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 within 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.

The signing actuaries are independent of the plan sponsor.

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 opinions contained herein.

Respectfully submitted,

By Brian B Murphy

Brian B. Murphy
FSA, EA, FCA, MAAA

By Bonita J. Wurst

Bonita J. Wurst
ASA, EA, FCA, MAAA

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY
AS OF JUNE 30, 2016 (DOLLARS IN THOUSANDS)

		2016
Actuarial Valuation Date		June 30, 2016
Measurement Date of the Net Pension Liability		June 30, 2016
Employer's Fiscal Year Ending Date (Reporting Date)		Varies by Employer
Membership		
Number of		
- Service Retirements		749
- Survivors		49
- Disability Retirements		169
- Deferred Retirements		2,755
- Terminated other non-vested		2,359
- Active Members		3,827
- Total		9,908
Covered Payroll	$	188,816
Net Pension Liability		
Total Pension Liability	$	873,097
Plan Fiduciary Net Position		507,783
Net Pension Liability	$	365,314
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		58.16%
Net Pension Liability as a Percentage of Covered Payroll		193.48%
Development of the Single Discount Rate		
Single Discount Rate		5.31%
Long-Term Expected Rate of Investment Return		7.50%
Long-Term Municipal Bond Rate*		2.85%
Last year ending June 30 in the 2017 to 2116 projection period for which projected benefit payments are fully funded		2058
Total Pension Expense/ (Income)	**$**	**85,344**

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	$	286	$	5,277
Changes in assumptions		232,749		8,542
Net difference between projected and actual earnings on pension plan investments		41,044		15,921
Total	$	274,079	$	29,740

** Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 30, 2016*

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. Governmental Accounting Standards Board (GASB) Statement No. 82, Pension Issues, is an amendment to Statements No. 67, No. 68, and No. 73, intended to improve consistency in the application of the accounting standards.

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, 2016.

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.

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be 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).

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain approximately level as a percentage of payroll.
2. The unfunded actuarial accrued liabilities will increase and not be eliminated.
3. The funded status of the plan will decrease.
4. The plan may eventually become insolvent and unable to pay benefits.

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

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 an 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.

Limitation of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

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, 2016 and a measurement date of June 30, 2016.

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 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 7.50%; the municipal bond rate is 2.85% (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Year GO Index); and the resulting single discount rate is 5.31%. The long-term expected rate of return is based on a review of inflation and investment assumptions, dated September 11, 2014, and a recent asset liability study obtained by the Minnesota State Board of Investment.

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, 2016 (DOLLARS IN THOUSANDS)

A. Expense

1.	Service Cost	$	25,950
2.	Interest on the Total Pension Liability		40,605
3.	Current-Period Benefit Changes		0
4.	Employee Contributions (made negative for addition here)		(11,008)
5.	Projected Earnings on Plan Investments (made negative for addition here)		(39,433)
6.	Pension Plan Administrative Expense		290
7.	Other Changes in Plan Fiduciary Net Position		2
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		96
9.	Recognition of Outflow (Inflow) of Resources due to assumption changes		
	Arising from Current Reporting Period		77,583
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		7,845
11.	**Increase/(Decrease) from Experience in the Current Reporting Period**	**$**	**101,930**
12.	Recognition of Outflow (Inflow) of Resources due to differences between expected and actual experience in the measurement of the Total Pension Liability		
	Arising from Prior Reporting Periods		(3,305)
13.	Recognition of Outflow (Inflow) of Resources due to assumption changes		
	Arising from Prior Reporting Periods		(8,542)
14.	Recognition of Outflow (Inflow) of Resources due to the difference between projected (7.90%) and actual earnings on Pension Plan Investments		
	Arising from Prior Reporting Periods		(4,739)
15.	**Total Pension Expense / (Income)**	**$**	**85,344**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD FISCAL YEAR ENDED JUNE 30, 2016 (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	$	382
2. Assumption Changes (gains) or losses		310,332
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4.0000
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	$	96
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes		77,583
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	77,679
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	$	286
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes		232,749
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	233,035
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	39,224
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	7,845
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	31,379

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS FISCAL YEAR ENDED JUNE 30, 2016 (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	$ 77,679	$ 11,847	$ 65,832
2. Due to Assets	11,067	7,961	3,106
3. Total	$ 88,746	$ 19,808	$ 68,938

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	$ 96	$ 3,305	$ (3,209)
2. Assumption Changes	77,583	8,542	69,041
3. Net Difference between projected and actual earnings on pension plan investments	11,067	7,961	3,106
4. Total	$ 88,746	$ 19,808	$ 68,938

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	$ 286	$ 5,277	$ (4,991)
2. Assumption Changes	232,749	8,542	224,207
3. Net Difference between projected and actual earnings on pension plan investments	41,044	15,921	25,123
4. Total	$ 274,079	$ 29,740	$ 244,339

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
2017	$ 68,938
2018	78,814
2019	88,745
2020	7,842
2021	0
Thereafter	0
Total	$ 244,339

STATEMENT OF FIDUCIARY NET POSITION
(DOLLARS IN THOUSANDS)

	Market Value	
Assets in Trust	**June 30, 2016**	**June 30, 2015**
Cash, equivalents, short term securities	$ 11,243	$ 9,901
Fixed income	125,331	115,387
Equity	306,438	304,773
SBI Alternative	64,984	60,509
Other	0	0
Total Assets in Trust	**$ 507,996**	**$ 490,570**
Assets Receivable	234	420
Amounts Payable	(447)	(259)
Net Position Restricted for Pensions	**$ 507,783**	**$ 490,731**

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

Change in Assets	**Market Value**	
Year Ending	**June 30, 2016**	**June 30, 2015**
1. Fund balance at market value at beginning of year	$ 490,731	$ 453,232
2. Adjustment to match beginning of year asset statement	0	(1)
3. Fund balance at market value at beginning of year	490,731	453,231
4. Contributions		
a. Member	11,008	10,472
b. Employer	16,490	15,736
c. Other sources	0	0
d. Total contributions	27,498	26,208
5. Investment income		
a. Investment income/(loss)	870	21,039
b. Investment expenses	(661)	(666)
c. Net subtotal	209	20,373
6. Other	(2)	0
7. Total additions: *(4.d.) + (5.c.) + (6.)*	**$ 27,705**	**$ 46,581**
8. Benefits Paid		
a. Annuity benefits	(9,381)	(7,777)
b. Refunds	(982)	(1,057)
c. Total benefits paid	(10,363)	(8,834)
9. Expenses		
a. Other	0	0
b. Administrative	(290)	(247)
c. Total expenses	(290)	(247)
10. Total deductions: *(8.c.) + (9.c.)*	**(10,653)**	**(9,081)**
11. Net increase (decrease) in net position: *(7.) + (10.)*	17,052	37,500
12. Net position restricted for pensions	**$ 507,783**	**$ 490,731**
13. Approximate return on market value of assets	0.0%	4.4%

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS CURRENT PERIOD

FISCAL YEAR ENDED JUNE 30, 2016 (DOLLARS IN THOUSANDS)

A. Total pension liability		
1. Service Cost	$	25,950
2. Interest on the Total Pension Liability		40,605
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		382
5. Changes of assumptions		310,332
6. Benefit payments, including refunds of employee contributions		(10,363)
7. Net change in total pension liability	$	366,906
8. Total pension liability – beginning		506,191
9. Total pension liability – ending	**$**	**873,097**
B. Plan fiduciary net position		
1. Contributions – employer	$	16,490
2. Contributions – employee		11,008
3. Net investment income		209
4. Benefit payments, including refunds of employee contributions		(10,363)
5. Pension Plan Administrative Expense		(290)
6. Other		(2)
7. Net change in plan fiduciary net position	$	17,052
8. Plan fiduciary net position – beginning		490,731
9. Plan fiduciary net position – ending	**$**	**507,783**
C. Net pension liability	**$**	**365,314**
D. Plan fiduciary net position as a percentage of the total pension liability		**58.16%**
E. Covered-employee payroll	**$**	**188,816**
F. Net pension liability as a percentage of covered employee payroll		**193.48%**

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,	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service Cost	$ 25,950	$ 25,098	$ 26,488							
Interest on the Total Pension Liability	40,605	37,043	33,955							
Benefit Changes	0	0	0							
Difference between Expected and Actual Experience	382	(7,892)	(5,327)							
Assumption Changes	310,332	0	(34,168)							
Benefit Payments	(9,381)	(7,777)	(6,711)							
Refunds	(982)	(1,057)	(1,105)							
Net Change in Total Pension Liability	366,906	45,415	13,132							
Total Pension Liability - Beginning	506,191	460,776	447,644							
Total Pension Liability - Ending (a)	$ 873,097	$ 506,191	$ 460,776							
Plan Fiduciary Net Position										
Employer Contributions	$ 16,490	$ 15,736	$ 15,054							
Employee Contributions	11,008	10,472	10,030							
Pension Plan Net Investment Income	209	20,373	69,451							
Benefit Payments	(9,381)	(7,777)	(6,711)							
Refunds	(982)	(1,057)	(1,105)							
Pension Plan Administrative Expense	(290)	(247)	(236)							
Other	(2)	(1)	(1)							
Net Change in Plan Fiduciary Net Position	17,052	37,499	86,482							
Plan Fiduciary Net Position - Beginning	490,731	453,232	366,750							
Plan Fiduciary Net Position - Ending (b)	$ 507,783	$ 490,731	$ 453,232							
Net Pension Liability - Ending (a) - (b)	365,314	15,460	7,544							
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	58.16 %	96.95 %	98.36 %							
Covered Employee Payroll	$ 188,816	$ 179,623	$ 172,041							
Net Pension Liability as a Percentage of Covered Employee Payroll	193.48 %	8.61 %	4.39 %							

Notes to Schedule:

N/A

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF 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
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%
2016	873,097	507,783	365,314	58.16%	188,816	193.48%

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
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
2016	16,446	16,490	(44)	188,816	8.73

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	June 30, 2016
Notes	Actuarially determined contribution rates are calculated as of each June 30 and apply to the fiscal year beginning on the day after 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	15 years
Asset Valuation Method	5-Year smoothed market; no corridor
Inflation	2.75%
Payroll Growth	3.50%
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 2.50% post-retirement benefit increase for all years. See separate funding report as of July 1, 2016 for additional detail.

Schedule of Investment Returns Multiyear
Last 10 Fiscal Years

FY Ending June 30,	Annual Return[1]
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	

[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 5.31% 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 7.50% and the municipal bond rate of 2.85%. 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 and future contributions were sufficient to finance the benefit payments through the year ending June 30, 2058. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year ending June 30, 2058, and the municipal bond rate was applied to all benefit payments after the point of asset depletion.

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 5.31%, 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 4.31%	Current Single Discount Rate Assumption 5.31%	1% Increase 6.31%
Total Pension Liability	$ 1,057,833	$ 873,097	$ 728,875
Net Position Restricted for Pensions	507,783	507,783	507,783
Net Pension Liability	**$ 550,050**	**$ 365,314**	**$ 221,092**

GASB STATEMENT NO. 68 RECONCILIATION (DOLLARS IN THOUSANDS)
CURRENT REPORTING PERIOD

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)	Current Period: Deferred Outflows	Current Period: Deferred Inflows	Current Period: Pension Expense*
Balance Beginning of Year	**$ 506,191**	**$ 490,731**	**$ 15,460**			
Changes for the Year:						
Service Cost	$ 25,950		$ 25,950			$ 25,950
Interest on Total Pension Liability	40,605		40,605			40,605
Interest on Fiduciary Net Position		$ 39,433	(39,433)			(39,433)
Changes in Benefit Terms						
Liability Experience Gains and Losses	382		382	$ 286	$ -	96
Changes in Assumptions	310,332		310,332	232,749	-	77,583
Contributions - Employer		16,490	(16,490)			
Contributions - Employees		11,008	(11,008)			(11,008)
Asset Gain/(Loss)		(39,224)	39,224	31,379	-	7,845
Benefit Payouts	(10,363)	(10,363)				
Administrative Expenses		(290)	290			290
Other		(2)	2			2
Net Changes	**$ 366,906**	**$ 17,052**	**$ 349,854**	**$ 264,414**	**$ -**	**$ 101,930**
Balance End of Year	**$ 873,097**	**$ 507,783**	**$ 365,314**			

** Pension Expense from Experience in the Current Reporting Period.*

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	**$ 506,191**	**$ 490,731**	**$ 15,460**				
Changes for the Year:							
Service Cost	$ 25,950		$ 25,950				$ 25,950
Interest on Total Pension Liability	40,605		40,605				40,605
Interest on Fiduciary Net Position		$ 39,433	(39,433)				(39,433)
Changes in Benefit Terms							
Liability Experience Gains and Losses	382		382	$ 286	$ 5,277	$ (8,582)	(3,209)
Changes in Assumptions	310,332		310,332	232,749	8,542	(17,084)	69,041
Contributions - Employer		16,490	(16,490)				
Contributions - Employees		11,008	(11,008)				(11,008)
Asset Gain/(Loss)		(39,224)	39,224	41,044	15,921	(10,995)	3,106
Benefit Payouts	(10,363)	(10,363)					
Administrative Expenses		(290)	290				290
Other		(2)	2				2
Net Changes	**$ 366,906**	**$ 17,052**	**$ 349,854**				**$ 85,344**
Balance End of Year	**$ 873,097**	**$ 507,783**	**$ 365,314**	**$ 274,079**	**$ 29,740**	**$ (36,661)**	

* *Pension Expense from Experience in the Current and Prior Reporting Periods.*

SUMMARY OF POPULATION STATISTICS

		Terminated		Recipients			
	Actives	Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivor	Total
Members on 7/1/2015	**3,692**	**2,620**	**2,139**	**655**	**169**	**40**	**9,315**
New members	629	0	0	0	0	0	**629**
Return to active	38	(21)	(17)	0	0	0	**0**
Terminated non-vested	(276)	0	276	0	0	0	**0**
Service retirements	(66)	(33)	0	99	0	0	**0**
Terminated deferred	(136)	136	0	0	0	0	**0**
Terminated refund/transfer	(47)	(30)	(40)	0	0	0	**(117)**
Deaths	(4)	(4)	(5)	(5)	(5)	0	**(23)**
New beneficiary	0	0	0	0	0	10	**10**
Disabled	(3)	0	0	0	3	0	**0**
Data correction	0	87	6	0	2	(1)	**94**
Net change	135	135	220	94	0	9	**593**
Members on 6/30/2016	**3,827**	**2,755**	**2,359**	**749**	**169**	**49**	**9,908**

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	1.90% of Average Salary for each year of Allowable Service, pro rata for completed months.

SUMMARY OF PLAN PROVISIONS (CONTINUED)

Retirement (Continued)

Early Retirement	
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).
Form of payment	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.
Benefit increases	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

Duty Disability	
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.
Regular Disability	
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	There have been no changes to plan provisions since previous valuation

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

ACTUARIAL METHODS USED FOR THE DETERMINATION OF TOTAL PENSION LIABILITY AND RELATED VALUES

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 2.50% 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 1.00%.

Based on the assumptions and methods in this report, this plan is expected to pay the 2.50% benefit increases indefinitely.

Asset Valuation Method

Fair value of assets.

SUMMARY OF ACTUARIAL ASSUMPTIONS USED FOR THE DETERMINATION OF TOTAL PENSION LIABILITY AND RELATED VALUES

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, a review of inflation and investment return assumptions, dated September 11, 2014, and a recent asset liability study obtained by the SBI.

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. We note that the LCPR has recently completed a review of this assumption. This review recommended changes to this assumption, expected to be effective at a future date.

Investment return	7.50% per annum.
Single discount rate	5.31% per annum.
Benefit increases after retirement	2.50% 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	2.50% per year.
Payroll growth	3.25% 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	In the valuation year, equal to prior year administrative expenses expressed as a percentage of prior year projected payroll. In each subsequent year, equal to the initial administrative expense percentage applied to payroll for the closed group.
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. Decrements are assumed to occur mid-fiscal year.
Service credit accruals	It is assumed that members accrue one year of service credit per year.
Pay Increases	Pay increases are assumed to happen at the beginning of the fiscal year. This is equivalent to assuming that reported earnings are pensionable earnings for the year ending on the valuation date.

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. Because PERA reclassifies disabled members as retirees once the member reaches Normal Retirement Age, we compare the members that PERA reports as retirees to our disabled group from the last valuation. If a member was disabled in the valuation, we reclassify that member as a disabled retiree in this year's valuation. We reclassified 45 retirees as disabled retirees in this valuation. In cases where submitted data was missing or incomplete, the following assumptions were applied: <u>Data for active members:</u> There were 43 members reported with a salary less than $100. We used prior year salary (37 members), if available; otherwise high five salary with a 10% load to account for salary increases (six members). If neither prior year salary or high five salary was available, we assumed a value of $35,000 (zero members). There were also 45 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. If the reported termination date occurs prior to the reported hire date, the two dates were swapped. There were no members reported without a date of birth. There were three 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	The assumed investment return was changed from 7.90% to 7.50%. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25%. The single discount rate changed from 7.90% to 5.31%.

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. These standard mortality rates have been adjusted slightly to prevent decreasing mortality rates. If the rates were not adjusted as described, 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	8.50%
25	7.25
30	6.25
35	5.75
40	5.25
45	4.50
50	4.50
55	4.25
60	3.75
65	3.50
70+	3.50

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 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 7.50%; the municipal bond rate is 2.85%; and **the resulting single discount rate is 5.31%**.

Benefit payments projected to occur up through June 30, 2058 were fully funded and benefit payments projected to occur in the year ended June 30, 2059 were partially funded. Assets were projected to be fully depleted by the fiscal year ending June 30, 2059. Benefit payments were discounted using 7.50%, the long-term expected rate of return on pension plan investments, as long as assets were sufficient to fund the benefit payments. Beginning in the July 1, 2058 to June 30, 2059 fiscal year, when benefit payments exceed the Plan's Fiduciary Net Position, benefit payments were discounted at 2.85%, the municipal bond rate. An equivalent single discount rate was determined that produced approximately the same present value of projected benefits when applied to all years of projected benefits as the present value of projected benefits using 7.50% through the point of asset depletion and 2.85% after. For more information on the calculation of the equivalent present value of projected benefits, see pages 37 through 38 of this report.

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			
Fiscal Year Ending	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
2016	$ 188,816	$ 0	$ 188,816				
2017	201,655	0	201,655	$ 11,756	$ 17,645	$ 0	$ 29,401
2018	190,639	17,570	208,209	11,114	16,681	4	27,799
2019	182,356	32,619	214,975	10,631	15,956	7	26,594
2020	175,440	46,522	221,962	10,228	15,351	9	25,588
2021	169,007	60,169	229,176	9,853	14,788	12	24,653
2022	162,753	73,871	236,624	9,489	14,241	15	23,745
2023	156,785	87,529	244,314	9,141	13,719	18	22,878
2024	151,050	101,205	252,255	8,806	13,217	20	22,043
2025	145,254	115,199	260,453	8,468	12,710	23	21,201
2026	139,550	129,368	268,918	8,136	12,211	26	20,373
2027	133,882	143,775	277,657	7,805	11,715	29	19,549
2028	128,250	158,431	286,681	7,477	11,222	32	18,731
2029	122,755	173,243	295,998	7,157	10,741	35	17,933
2030	117,297	188,321	305,618	6,838	10,263	38	17,139
2031	111,789	203,762	315,551	6,517	9,782	41	16,340
2032	106,258	219,548	325,806	6,195	9,298	44	15,537
2033	100,736	235,659	336,395	5,873	8,814	47	14,734
2034	95,276	252,052	347,328	5,555	8,337	50	13,942
2035	89,863	268,753	358,616	5,239	7,863	54	13,156
2036	84,509	285,762	370,271	4,927	7,395	57	12,379
2037	79,223	303,082	382,305	4,619	6,932	61	11,612
2038	73,946	320,784	394,730	4,311	6,470	64	10,845
2039	68,628	338,930	407,558	4,001	6,005	68	10,074
2040	63,335	357,469	420,804	3,692	5,542	71	9,305
2041	58,138	376,342	434,480	3,389	5,087	75	8,551
2042	53,036	395,565	448,601	3,092	4,641	79	7,812
2043	48,045	415,135	463,180	2,801	4,204	83	7,088
2044	43,090	435,144	478,234	2,512	3,770	87	6,369
2045	38,147	455,629	493,776	2,224	3,338	91	5,653
2046	33,285	476,539	509,824	1,940	2,912	95	4,947
2047	28,604	497,789	526,393	1,668	2,503	100	4,271
2048	24,266	519,235	543,501	1,415	2,123	104	3,642
2049	20,345	540,820	561,165	1,186	1,780	108	3,074
2050	16,833	562,570	579,403	981	1,473	113	2,567
2051	13,687	584,546	598,233	798	1,198	117	2,113
2052	10,848	606,828	617,676	632	949	121	1,702
2053	8,338	629,412	637,750	486	730	126	1,342
2054	6,175	652,302	658,477	360	540	130	1,030
2055	4,387	675,491	679,878	256	384	135	775
2056	2,998	698,976	701,974	175	262	140	577
2057	1,970	722,818	724,788	115	172	145	432
2058	1,247	747,097	748,344	73	109	149	331
2059	759	771,906	772,665	44	66	154	264
2060	440	797,336	797,776	26	38	159	223
2061	241	823,463	823,704	14	21	165	200
2062	121	850,354	850,475	7	11	170	188
2063	53	878,062	878,115	3	5	176	184
2064	21	906,633	906,654	1	2	181	184
2065	7	936,113	936,120	0	1	187	188
2066	2	966,542	966,544	0	0	193	193

**Contributions related to future employees in excess of normal cost and expenses of 14.56% of pay.*

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

	Payroll			Projected Contributions			
Fiscal Year Ending	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
2067	$ 0	$ 997,957	$ 997,957	$ 0	$ 0	$ 200	$ 200
2068	0	1,030,390	1,030,390	0	0	206	206
2069	0	1,063,878	1,063,878	0	0	213	213
2070	0	1,098,454	1,098,454	0	0	220	220
2071	0	1,134,154	1,134,154	0	0	227	227
2072	0	1,171,014	1,171,014	0	0	234	234
2073	0	1,209,072	1,209,072	0	0	242	242
2074	0	1,248,366	1,248,366	0	0	250	250
2075	0	1,288,938	1,288,938	0	0	258	258
2076	0	1,330,829	1,330,829	0	0	266	266
2077	0	1,374,081	1,374,081	0	0	275	275
2078	0	1,418,738	1,418,738	0	0	284	284
2079	0	1,464,847	1,464,847	0	0	293	293
2080	0	1,512,455	1,512,455	0	0	302	302
2081	0	1,561,610	1,561,610	0	0	312	312
2082	0	1,612,362	1,612,362	0	0	322	322
2083	0	1,664,764	1,664,764	0	0	333	333
2084	0	1,718,869	1,718,869	0	0	344	344
2085	0	1,774,732	1,774,732	0	0	355	355
2086	0	1,832,411	1,832,411	0	0	366	366
2087	0	1,891,964	1,891,964	0	0	378	378
2088	0	1,953,453	1,953,453	0	0	391	391
2089	0	2,016,940	2,016,940	0	0	403	403
2090	0	2,082,490	2,082,490	0	0	416	416
2091	0	2,150,171	2,150,171	0	0	430	430
2092	0	2,220,052	2,220,052	0	0	444	444
2093	0	2,292,204	2,292,204	0	0	458	458
2094	0	2,366,700	2,366,700	0	0	473	473
2095	0	2,443,618	2,443,618	0	0	489	489
2096	0	2,523,036	2,523,036	0	0	505	505
2097	0	2,605,034	2,605,034	0	0	521	521
2098	0	2,689,698	2,689,698	0	0	538	538
2099	0	2,777,113	2,777,113	0	0	555	555
2100	0	2,867,369	2,867,369	0	0	573	573
2101	0	2,960,559	2,960,559	0	0	592	592
2102	0	3,056,777	3,056,777	0	0	611	611
2103	0	3,156,122	3,156,122	0	0	631	631
2104	0	3,258,696	3,258,696	0	0	652	652
2105	0	3,364,604	3,364,604	0	0	673	673
2106	0	3,473,953	3,473,953	0	0	695	695
2107	0	3,586,857	3,586,857	0	0	717	717
2108	0	3,703,430	3,703,430	0	0	741	741
2109	0	3,823,791	3,823,791	0	0	765	765
2110	0	3,948,064	3,948,064	0	0	790	790
2111	0	4,076,377	4,076,377	0	0	815	815
2112	0	4,208,859	4,208,859	0	0	842	842
2113	0	4,345,647	4,345,647	0	0	869	869
2114	0	4,486,880	4,486,880	0	0	897	897
2115	0	4,632,704	4,632,704	0	0	927	927
2116	0	4,783,267	4,783,267	0	0	957	957

**Contributions related to future employees in excess of normal cost and expenses of 14.56% of pay.*

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

Fiscal Year Ending	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2017	$ 507,783	$ 29,401	$ 13,909	$ 302	$ 38,643	$ 561,616
2018	561,616	27,799	16,043	286	42,544	615,630
2019	615,630	26,594	18,227	274	46,470	670,193
2020	670,193	25,588	20,671	263	50,436	725,283
2021	725,283	24,653	23,385	254	54,434	780,731
2022	780,731	23,744	26,543	244	58,443	836,131
2023	836,131	22,877	29,802	235	62,446	891,417
2024	891,417	22,043	33,282	227	66,434	946,385
2025	946,385	21,201	37,086	218	70,386	1,000,668
2026	1,000,668	20,372	41,384	209	74,269	1,053,716
2027	1,053,716	19,549	45,849	201	78,053	1,105,268
2028	1,105,268	18,731	50,393	192	81,722	1,155,136
2029	1,155,136	17,932	55,174	184	85,257	1,202,967
2030	1,202,967	17,139	60,136	176	88,633	1,248,427
2031	1,248,427	16,340	65,383	168	91,820	1,291,036
2032	1,291,036	15,536	70,691	159	94,791	1,330,513
2033	1,330,513	14,735	76,369	151	97,513	1,366,241
2034	1,366,241	13,942	82,156	143	99,951	1,397,835
2035	1,397,835	13,156	87,881	135	102,081	1,425,056
2036	1,425,056	12,379	93,790	127	103,877	1,447,395
2037	1,447,395	11,611	99,844	119	105,301	1,464,344
2038	1,464,344	10,845	105,788	111	106,326	1,475,616
2039	1,475,616	10,074	111,807	103	106,921	1,480,701
2040	1,480,701	9,306	117,670	95	107,059	1,479,301
2041	1,479,301	8,552	123,371	87	106,716	1,471,111
2042	1,471,111	7,812	128,787	80	105,876	1,455,932
2043	1,455,932	7,088	133,884	72	104,523	1,433,587
2044	1,433,587	6,370	138,840	65	102,639	1,403,691
2045	1,403,691	5,653	143,685	57	100,192	1,365,794
2046	1,365,794	4,948	148,304	50	97,154	1,319,542
2047	1,319,542	4,270	152,607	43	93,502	1,264,664
2048	1,264,664	3,642	156,335	36	89,226	1,201,161
2049	1,201,161	3,074	159,349	31	84,331	1,129,186
2050	1,129,186	2,567	161,663	25	78,830	1,048,895
2051	1,048,895	2,112	163,366	21	72,729	960,349
2052	960,349	1,703	164,561	16	66,029	863,504
2053	863,504	1,342	165,240	13	58,727	758,320
2054	758,320	1,031	165,410	9	50,821	644,753
2055	644,753	775	165,044	7	42,307	522,784
2056	522,784	577	164,118	4	33,187	392,426
2057	392,426	432	162,643	3	23,459	253,671
2058	253,671	331	160,643	2	13,122	106,479
2059	106,479	265	158,158	1	2,172	0
2060	0	224	155,226	1	0	0
2061	0	200	151,886	0	0	0
2062	0	188	148,173	0	0	0
2063	0	184	144,110	0	0	0
2064	0	184	139,724	0	0	0
2065	0	188	135,041	0	0	0
2066	0	193	130,082	0	0	0

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

Fiscal Year Ending	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2067	$ -	$ 200	$ 124,867	$ 0	$ -	$ -
2068	0	206	119,420	0	0	0
2069	0	213	113,762	0	0	0
2070	0	220	107,923	0	0	0
2071	0	227	101,928	0	0	0
2072	0	234	95,804	0	0	0
2073	0	242	89,587	0	0	0
2074	0	250	83,315	0	0	0
2075	0	258	77,026	0	0	0
2076	0	266	70,766	0	0	0
2077	0	275	64,577	0	0	0
2078	0	284	58,505	0	0	0
2079	0	293	52,594	0	0	0
2080	0	302	46,884	0	0	0
2081	0	312	41,419	0	0	0
2082	0	322	36,246	0	0	0
2083	0	333	31,400	0	0	0
2084	0	344	26,914	0	0	0
2085	0	355	22,815	0	0	0
2086	0	366	19,118	0	0	0
2087	0	378	15,830	0	0	0
2088	0	391	12,945	0	0	0
2089	0	403	10,451	0	0	0
2090	0	416	8,329	0	0	0
2091	0	430	6,552	0	0	0
2092	0	444	5,090	0	0	0
2093	0	458	3,905	0	0	0
2094	0	473	2,960	0	0	0
2095	0	489	2,218	0	0	0
2096	0	505	1,645	0	0	0
2097	0	521	1,207	0	0	0
2098	0	538	878	0	0	0
2099	0	555	632	0	0	0
2100	0	573	452	0	0	0
2101	0	592	321	0	0	0
2102	0	611	226	0	0	0
2103	0	631	158	0	0	0
2104	0	652	111	0	0	0
2105	0	673	77	0	0	0
2106	0	695	54	0	0	0
2107	0	717	38	0	0	0
2108	0	741	26	0	0	0
2109	0	765	19	0	0	0
2110	0	790	13	0	0	0
2111	0	815	9	0	0	0
2112	0	842	6	0	0	0
2113	0	869	4	0	0	0
2114	0	897	3	0	0	0
2115	0	927	2	0	0	0
2116	0	957	1	0	0	0

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

Fiscal Year Ending	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)
2017	$ 507,783	$ 13,909	$ 13,909	$ 0	$ 13,415	$ 0	$ 13,554
2018	561,616	16,043	16,043	0	14,394	0	14,846
2019	615,629	18,227	18,227	0	15,212	0	16,016
2020	670,193	20,671	20,671	0	16,049	0	17,249
2021	725,282	23,385	23,385	0	16,889	0	18,530
2022	780,730	26,543	26,543	0	17,832	0	19,971
2023	836,130	29,802	29,802	0	18,625	0	21,294
2024	891,416	33,282	33,282	0	19,348	0	22,581
2025	946,385	37,086	37,086	0	20,056	0	23,893
2026	1,000,668	41,384	41,384	0	20,819	0	25,319
2027	1,053,716	45,849	45,849	0	21,456	0	26,637
2028	1,105,268	50,393	50,393	0	21,937	0	27,801
2029	1,155,135	55,174	55,174	0	22,343	0	28,904
2030	1,202,966	60,136	60,136	0	22,653	0	29,916
2031	1,248,426	65,383	65,383	0	22,911	0	30,886
2032	1,291,035	70,691	70,691	0	23,043	0	31,711
2033	1,330,512	76,369	76,369	0	23,157	0	32,531
2034	1,366,239	82,156	82,156	0	23,173	0	33,232
2035	1,397,833	87,881	87,881	0	23,059	0	33,756
2036	1,425,054	93,790	93,790	0	22,892	0	34,210
2037	1,447,393	99,844	99,844	0	22,670	0	34,582
2038	1,464,343	105,788	105,788	0	22,344	0	34,794
2039	1,475,615	111,807	111,807	0	21,967	0	34,920
2040	1,480,700	117,670	117,670	0	21,506	0	34,899
2041	1,479,299	123,371	123,371	0	20,975	0	34,745
2042	1,471,109	128,787	128,787	0	20,368	0	34,442
2043	1,455,930	133,884	133,884	0	19,697	0	34,001
2044	1,433,586	138,840	138,840	0	19,001	0	33,482
2045	1,403,689	143,685	143,685	0	18,292	0	32,904
2046	1,365,792	148,304	148,304	0	17,563	0	32,250
2047	1,319,541	152,607	152,607	0	16,812	0	31,513
2048	1,264,663	156,335	156,335	0	16,021	0	30,655
2049	1,201,158	159,349	159,349	0	15,191	0	29,671
2050	1,129,185	161,663	161,663	0	14,336	0	28,585
2051	1,048,894	163,366	163,366	0	13,476	0	27,430
2052	960,349	164,561	164,561	0	12,628	0	26,238
2053	863,504	165,240	165,240	0	11,795	0	25,018
2054	758,319	165,410	165,410	0	10,984	0	23,781
2055	644,752	165,044	165,044	0	10,195	0	22,533
2056	522,783	164,118	164,118	0	9,430	0	21,277
2057	392,424	162,643	162,643	0	8,693	0	20,023
2058	253,669	160,643	160,643	0	7,988	0	18,780
2059	106,477	158,158	106,477	51,681	4,925	15,655	17,557
2060	0	155,226	0	155,226	0	45,717	16,363
2061	0	151,886	0	151,886	0	43,494	15,204
2062	0	148,173	0	148,173	0	41,255	14,085
2063	0	144,110	0	144,110	0	39,012	13,008
2064	0	139,724	0	139,724	0	36,776	11,976
2065	0	135,041	0	135,041	0	34,559	10,992
2066	0	130,082	0	130,082	0	32,367	10,054

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

Fiscal Year Ending	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)
2067	$ -	$ 124,867	$ -	$ 124,867	$ -	$ 30,209	$ 9,165
2068	0	119,420	0	119,420	0	28,090	8,323
2069	0	113,762	0	113,762	0	26,018	7,529
2070	0	107,923	0	107,923	0	23,999	6,783
2071	0	101,928	0	101,928	0	22,037	6,083
2072	0	95,804	0	95,804	0	20,139	5,429
2073	0	89,587	0	89,587	0	18,311	4,821
2074	0	83,315	0	83,315	0	16,557	4,258
2075	0	77,026	0	77,026	0	14,883	3,738
2076	0	70,766	0	70,766	0	13,294	3,261
2077	0	64,577	0	64,577	0	11,795	2,826
2078	0	58,505	0	58,505	0	10,390	2,431
2079	0	52,594	0	52,594	0	9,082	2,075
2080	0	46,884	0	46,884	0	7,871	1,757
2081	0	41,419	0	41,419	0	6,761	1,474
2082	0	36,246	0	36,246	0	5,753	1,225
2083	0	31,400	0	31,400	0	4,846	1,007
2084	0	26,914	0	26,914	0	4,038	820
2085	0	22,815	0	22,815	0	3,328	660
2086	0	19,118	0	19,118	0	2,712	525
2087	0	15,830	0	15,830	0	2,183	413
2088	0	12,945	0	12,945	0	1,736	321
2089	0	10,451	0	10,451	0	1,362	246
2090	0	8,329	0	8,329	0	1,056	186
2091	0	6,552	0	6,552	0	808	139
2092	0	5,090	0	5,090	0	610	103
2093	0	3,905	0	3,905	0	455	75
2094	0	2,960	0	2,960	0	335	54
2095	0	2,218	0	2,218	0	244	38
2096	0	1,645	0	1,645	0	176	27
2097	0	1,207	0	1,207	0	126	19
2098	0	878	0	878	0	89	13
2099	0	632	0	632	0	62	9
2100	0	452	0	452	0	43	6
2101	0	321	0	321	0	30	4
2102	0	226	0	226	0	20	3
2103	0	158	0	158	0	14	2
2104	0	111	0	111	0	9	1
2105	0	77	0	77	0	6	1
2106	0	54	0	54	0	4	1
2107	0	38	0	38	0	3	0
2108	0	26	0	26	0	2	0
2109	0	19	0	19	0	1	0
2110	0	13	0	13	0	1	0
2111	0	9	0	9	0	1	0
2112	0	6	0	6	0	0	0
2113	0	4	0	4	0	0	0
2114	0	3	0	3	0	0	0
2115	0	2	0	2	0	0	0
2116	0	1	0	1	0	0	0
				Totals	$ 756,118	$ 578,326,181	$ 1,334,444

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.

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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.

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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.