

WISCONSIN RETIREMENT SYSTEM
GASB STATEMENT NO. 67 PLAN REPORTING AND
ACCOUNTING SCHEDULES
DECEMBER 31, 2016

TABLE OF CONTENTS

	<u>Page</u>
Section A	Executive Summary
	Executive Summary 1
	Discussion 2
Section B	Financial Statements
	Statement of Fiduciary Net Position 6
	Statement of Changes in Fiduciary Net Position 7
Section C	Required Supplementary Information
	Multiyear Schedule of Changes in Net Pension Liability and Related Ratios 8
	Multiyear Schedule of Net Pension Liability 9
	Multiyear Schedule of Contributions 10
	Notes to Schedule of Contributions 11
	Multiyear Schedule of Investment Returns 12
Section D	Notes to Financial Statements
	Asset Allocation 13
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption 14
	Summary of Population Statistics 15
Section E	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate 16
	Projection of Contributions 17
	Projection of Plan Fiduciary Net Position 19
	Present Values of Projected Benefits 21
	Projection of Plan Net Position and Benefit Payments 23
Section F	Summary of Assumptions 24
Section G	Plan Provisions 29
Section H	Glossary of Terms 33

September 13, 2017

Employee Trust Funds Board
Wisconsin Department of Employee
Trust Funds
801 West Badger Road
Madison, Wisconsin 53713

This report provides certain information requested by the Wisconsin Retirement System (“WRS”) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 “Accounting and Financial Reporting for Pension Plans.”

The actuarial calculations in connection with this report were prepared for the purpose of complying with the requirements of GASB Statement No. 67. These calculations have been made on a basis that is consistent with our understanding of this Statement.

The calculation of the plan’s liability for this report is not 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. This report may be provided to parties other than the WRS only in its entirety and only with the permission of the WRS. GRS is not responsible for unauthorized use of this report.

The report was based upon information, furnished by the Department of Employee Trust Funds (DETF), concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of any data provided by DETF.

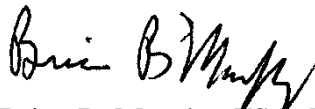
This report complements the actuarial valuation report that we provided to the Board and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2016 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

This report is intended to assist in preparation of the financial statements of WRS and its participating employers. Financial statements are the responsibility of the reporting entity and not the actuary. The statements are subject to an auditor’s review. Please let us know if the plan’s auditor recommends any changes


Employee Trust Funds Board
Wisconsin Department of Employee
Trust Funds
September 13, 2017
Page 2

To the best of our knowledge, the information contained in this report is accurate, and fairly represents the actuarial position of WRS. 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, Mark Buis and James D. Anderson are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing actuaries are independent of the plan sponsor.

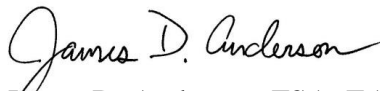
Respectfully submitted,



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SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

AS OF DECEMBER 31, 2016

	2016
Actuarial Valuation Date	December 31, 2016
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	December 31, 2016
 Membership	
Number of	
- Retirees and Beneficiaries	197,647
- Inactive, Nonretired Members	160,897
- Active Members	256,208
- Total	614,752
Covered Payroll	\$ 13,706,000,000
 Net Pension Liability	
Total Pension Liability	\$ 93,432,952,490
Plan Fiduciary Net Position	92,580,102,495
Net Pension Liability	\$ 852,849,995
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.09%
Net Pension Liability as a Percentage of Covered Payroll	6.22%
 Development of the Single Discount Rate	
Single Discount Rate	7.20%
Long-Term Expected Rate of Return	7.20%
Long-Term Municipal Bond Rate*	3.78%
Last year ending December 31 in the 2017 to 2116 projection period for which projected benefit payments are fully funded	2116

* Based on the '20-Bond GO Index' rate from the Bond Buyer Index as of December, 2016 (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,” replaces the requirements of GASB Statement No. 25, “Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and GASB Statement No. 50, “Pension Disclosures.” GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this accounting standard. 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 your internal staff will be responsible for preparing that information to comply with this accounting standard.

Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the pension plan’s reporting period, such as:

- assets;
- deferred inflows and outflows of resources;
- liabilities; and
- fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan’s reporting period:

- additions, such as contributions and investment income;
- deductions, such as benefit payments and expenses; and
- net increase or decrease in the fiduciary net position (the difference between additions and deductions).

Notes to Financial Statements

GASB Statement No. 67 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information should include:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- a description of how fair value is determined;
- concentrations of investments greater than or equal to 5%;
- annual money-weighted rate of return on pension plan investments;
- the portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- the pension plan's fiduciary net position;
- the net pension liability;
- the pension plan's fiduciary net position as a percentage of the total pension liability;
- 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.

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;
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- the annual money-weighted rate of return on pension plan investments for each year.

While the first two tables may be built prospectively as the information becomes available, sufficient information is currently available for the third and fourth tables.

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 7.2% on the actuarial value of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the future service normal cost as time passes.
2. The unfunded liability is expected to decrease in dollar amount until it is fully funded.
3. The funded status of the plan will remain very close to a 100% funded ratio.

This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2116. 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 total pension liability and the market 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 actuarial value of assets were used instead of the market value of assets.

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. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2016 and a measurement date of December 31, 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 (which is published by the Bond Buyer Index) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.20%; the municipal bond rate is 3.78% (based on the weekly rate closest to but not later than the measurement date of the "20-Bond GO Index" rate published from the Bond Buyer Index); and the resulting single discount rate is 7.20%.

Effective Date and Transition

GASB Statement No. 67 is effective for a pension plan's fiscal years beginning after June 15, 2013.

Actuarial Assumptions and Methods and Member Census Data

The liability and asset values used in this study are taken from the December 31, 2015 and December 31, 2016 Actuarial Valuation Reports of the Wisconsin Retirement System. Therefore, the actuarial assumptions and methods employed for purposes of our Actuarial Study are the same actuarial assumptions and methods shown in the Actuarial Valuation Reports.

The member census data employed for purposes of our Actuarial Study was provided by DETF and is the same member census data used for the December 31, 2015 and December 31, 2016 Actuarial Valuation Reports of the Retirement System.

The Wisconsin Retirement System uses the Frozen Initial Liability cost method for determining funding requirements. GASB Statement No. 67 requires the use of the Entry Age Normal method for accounting purposes. Therefore, we developed the Entry Age Normal Accrued Liability to reflect the Total Pension Liability for GASB purposes.

SECTION B

FINANCIAL STATEMENTS

STATEMENT OF FIDUCIARY NET POSITION
AS OF DECEMBER 31, 2016

	2016
Assets	
Cash and Deposits	\$ 7,936,180,115
Receivables	
Accounts Receivable - Sale of Investments	\$ 910,708,145
Accrued Interest and Other Dividends	244,205,098
Contributions	197,160,814
Accounts Receivable - Other	22,090,274
Total Receivables	\$ 1,374,164,331
Investments	
Fixed Income	\$ 28,622,140,349
Domestic and International Equities	44,963,358,380
Real Estate	1,275,525,892
Other	15,898,398,384
Total Investments	\$ 90,759,423,005
Total Assets	\$ 100,069,767,451
 Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 6,938,175,408
Accrued Expenses	81,879,198
Accounts Payable - Other	469,610,350
Total Liabilities	\$ 7,489,664,956
Net Position Restricted for Pensions	\$ 92,580,102,495

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR YEAR ENDED DECEMBER 31, 2016**

	2016
Additions	
Contributions	
Employer	\$ 963,121,911
Employee	921,863,806
Other	-
Total Contributions	\$ 1,884,985,717
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 5,859,551,557
Interest and Dividends	1,807,918,058
Less Investment Expense	(394,400,528)
Net Investment Income	\$ 7,273,069,087
Other	\$ -
Total Additions	\$ 9,158,054,804
Deductions	
Benefit payments, including refunds of employee contributions	\$ 5,062,196,429
Pension Plan Administrative Expense	20,426,189
Other Benefit Expenses	-
Total Deductions	\$ 5,082,622,618
Net Increase in Net Position	\$ 4,075,432,186
Net Position Restricted for Pensions	
Beginning of Year	\$ 88,504,670,309
End of Year	\$ 92,580,102,495

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

MULTIYEAR SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending December 31,	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service Cost	\$ 1,814,134,799	\$ 1,787,870,316	\$ 1,757,020,910	\$ 1,745,048,505						
Interest on the Total Pension Liability	6,363,034,249	6,349,703,745	6,089,287,273	5,680,664,977						
Benefit Changes	-	-	-	-						
Difference between Expected and Actual Experience	318,473,379	(4,488,825,613)	473,101,546	2,659,920,220						
Assumption Changes	-	1,484,977,863	-	-						
Benefit Payments	(5,022,920,827)	(4,823,586,513)	(4,540,247,874)	(4,224,700,261)						
Refunds	(39,275,602)	(37,642,404)	(34,401,181)	(33,271,143)						
Net Change in Total Pension Liability	3,433,445,998	272,497,394	3,744,760,674	5,827,662,298						
Total Pension Liability - Beginning	89,999,506,492	89,727,009,098	85,982,248,424	80,154,586,126						
Total Pension Liability - Ending (a)	\$ 93,432,952,490	\$ 89,999,506,492	\$ 89,727,009,098	\$ 85,982,248,424						
Plan Fiduciary Net Position										
Employer Contributions	\$ 963,121,911	\$ 977,733,921	\$ 987,792,834	\$ 914,698,118						
Employee Contributions	921,863,806	937,225,184	941,903,267	871,259,789						
Pension Plan Net Investment Income	7,273,069,087	(673,122,812)	4,891,014,826	11,347,296,075						
Benefit Payments	(5,022,920,827)	(4,823,586,513)	(4,540,247,874)	(4,224,700,261)						
Refunds	(39,275,602)	(37,642,404)	(34,401,181)	(33,271,143)						
Pension Plan Administrative Expense	(20,426,189)	(22,708,614)	(24,036,951)	(22,857,502)						
Other	-	-	-	-						
Net Change in Plan Fiduciary Net Position	4,075,432,186	(3,642,101,238)	2,222,024,921	8,852,425,076						
Plan Fiduciary Net Position - Beginning	88,504,670,309	92,146,771,547	89,924,746,626	81,072,321,550						
Plan Fiduciary Net Position - Ending (b)	\$ 92,580,102,495	\$ 88,504,670,309	\$ 92,146,771,547	\$ 89,924,746,626						
Net Pension Liability - Ending (a) - (b)	852,849,995	1,494,836,183	(2,419,762,449)	(3,942,498,202)						
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.09 %	98.34 %	102.70 %	104.59 %						
Covered-Employee Payroll*	\$ 13,706,000,000	\$ 13,530,500,000	\$ 13,219,500,000	\$ 12,884,800,000						
Net Pension Liability as a Percentage of Covered-Employee Payroll	6.22 %	11.05 %	(18.30)%	(30.60)%						
Notes to Schedule:										
N/A										

* Provided by DETF.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
MULTIYEAR SCHEDULE OF THE NET PENSION LIABILITY

Last 10 Fiscal Years (which may be built prospectively)

FY Ending December 31,	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	\$ 85,982,248,424	\$ 89,924,746,626	\$ (3,942,498,202)	104.59%	\$ 12,884,800,000	(30.60)%
2014	89,727,009,098	92,146,771,547	(2,419,762,449)	102.70%	13,219,500,000	(18.30)%
2015	89,999,506,492	88,504,670,309	1,494,836,183	98.34%	13,530,500,000	11.05 %
2016	93,432,952,490	92,580,102,495	852,849,995	99.09%	13,706,000,000	6.22 %

* *Provided by DETF.*

MULTIYEAR SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years (which may be built prospectively)

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2007					
2008					
2009					
2010					
2011					
2012					
2013	\$ 905,148,514	\$ 905,148,514	-	\$ 12,884,800,000	7.02%
2014	977,068,988	977,068,988	-	13,219,500,000	7.39%
2015	967,730,052	967,730,052	-	13,530,500,000	7.15%
2016	954,159,009	954,159,009	-	13,706,000,000	6.96%

* Provided by DETF.

MULTIYEAR SCHEDULE OF INVESTMENT RETURNS

Last 10 Fiscal Years

FY Ending December 31,	Core Annual Return¹	Variable Annual Return¹
2007		
2008		
2009		
2010		
2011		
2012		
2013	13.18 %	28.78 %
2014	5.44 %	7.24 %
2015	(0.63)%	(1.11)%
2016	8.29 %	10.49 %

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

The money weighted rate of return expresses investment performance net of pension plan investment expense, adjusted for the changing amounts actually invested.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return is reviewed every three years in conjunction with the WRS experience study. For each major asset class that is included in the pension plan's target asset allocation as of December 31, 2016, these best estimates of geometric real rates of return were provided by DETF and are summarized in the following tables:

Core Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Equities	45.00%	5.40%
Fixed Income	37.00%	1.40%
Inflation Sens. Assets	20.00%	1.50%
Real Estate	7.00%	3.60%
Private Equity/Debt	7.00%	6.50%
Multi-asset	4.00%	3.70%
Cash	-20.00%	0.90%
Total	<u>100.00%</u>	

Variable Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic Equity	70.00%	4.70%
International Equity	30.00%	5.60%
Fixed Income	N/A	N/A
Inflation Sens. Assets	N/A	N/A
Real Estate	N/A	N/A
Private Equity/Debt	N/A	N/A
Multi-asset	N/A	N/A
Cash	N/A	N/A
Total	<u>100.00%</u>	

Single Discount Rate

A single discount rate of 7.20% 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 7.20% and a long-term bond rate of 3.78%. Because of the unique structure of WRS, the 7.2% expected rate of return implies that a dividend of approximately 2.1% will always be paid. For purposes of the single discount rate, it was assumed that the dividend would always be paid. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments (including expected dividends) 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 7.20%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 100 basis points lower or 100 basis points higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount			
	1% Decrease	Rate Assumption	1% Increase	
Discount Rate	6.20%	7.20%	8.20%	
Ultimate Dividend Rate	2.10%	2.10%	2.10%	
Total Pension Liability	\$ 103,457,687,325	\$ 93,432,952,490	\$ 85,764,107,495	
Plan Fiduciary Net Position	92,580,102,495	92,580,102,495	92,580,102,495	
Net Pension Liability/(Asset)	\$ 10,877,584,830	\$ 852,849,995	\$ (6,815,995,000)	

This schedule is presented because it is required by GASB standards. Users of this report should not conclude that the authors view the upper end of the range as reasonable.

For the WRS, the determination of liabilities also depends on the assumed dividend which is linked to the interest rate used in the liability calculation. Therefore, we have also shown an alternative set of Sensitivity Analysis which varies the assumed dividend in conjunction with the change in the discount rate. For the liabilities shown below, the assumed dividend was 1.1% for the 6.2% discount rate, 2.1% for the 7.2% discount rate, and 3.0% for the 8.2% discount rate.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount			
	1% Decrease	Rate Assumption	1% Increase	
Discount Rate	6.20%	7.20%	8.20%	
Ultimate Dividend Rate	1.10%	2.10%	3.00%	
Total Pension Liability	\$ 96,875,567,060	\$ 93,432,952,490	\$ 89,808,482,820	
Plan Fiduciary Net Position	92,580,102,495	92,580,102,495	92,580,102,495	
Net Pension Liability/(Asset)	\$ 4,295,464,565	\$ 852,849,995	\$ (2,771,619,675)	

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	197,647
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	160,897
Active Plan Members	<u>256,208</u>
Total Plan Members	614,752

SECTION E

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 assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond 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 Bond Buyer Index) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.20%; the municipal bond rate is 3.78%; and the resulting single discount rate is 7.20%.

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 contribution rate for the first year was developed from the 2015 actuarial valuations (14.1%). Expected contribution rates gradually increase as the unrecognized asset losses from the Market Recognition Account are phased in over the next 5 years. The expected contribution rate then remains level for 20 years and is assumed to migrate to the ultimate contribution rate of 13.4% once the Experience Amortization Reserve (EAR) component is paid down.

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.

The WRS funding policy as it affects the closed group cannot be modelled with 100% accuracy. In reality, assets that appear to be left over after all benefit obligations are satisfied would be assigned to the funding benefits of people who enter the plan after the measurement date.

SINGLE DISCOUNT RATE DEVELOPMENT

PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31, 2116

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
0	\$ 13,485,975,797				
1	13,488,469,796	\$ 916,703,384	\$ 985,170,857	\$ -	\$ 1,901,874,241
2	13,137,309,133	886,505,620	952,717,659	-	1,839,223,279
3	12,829,789,533	878,122,115	943,707,999	-	1,821,830,114
4	12,528,986,221	881,689,818	947,542,170	-	1,829,231,988
5	12,224,805,193	877,961,059	943,534,915	-	1,821,495,974
6	11,915,025,181	855,713,278	919,625,474	-	1,775,338,752
7	11,599,764,671	833,071,899	895,293,037	-	1,728,364,936
8	11,279,417,962	810,065,239	870,568,037	-	1,680,633,276
9	10,950,151,045	786,417,948	845,154,558	-	1,631,572,506
10	10,612,141,225	762,142,759	819,066,284	-	1,581,209,043
11	10,266,866,136	737,345,792	792,417,262	-	1,529,763,054
12	9,912,344,360	711,884,747	765,054,563	-	1,476,939,310
13	9,547,351,903	685,671,719	736,883,715	-	1,422,555,434
14	9,173,778,478	658,842,423	708,050,570	-	1,366,892,993
15	8,792,704,615	631,474,460	678,638,528	-	1,310,112,988
16	8,401,952,039	603,411,392	648,479,462	-	1,251,890,854
17	8,003,270,706	574,778,895	617,708,440	-	1,192,487,335
18	7,597,992,525	545,672,627	586,428,259	-	1,132,100,886
19	7,183,759,803	515,923,262	554,456,949	-	1,070,380,211
20	6,761,937,528	485,628,830	521,899,862	-	1,007,528,692
21	6,335,052,587	454,970,806	488,952,029	-	943,922,835
22	5,904,240,279	424,030,729	455,701,073	-	879,731,802
23	5,470,959,866	392,913,396	422,259,624	-	815,173,020
24	5,037,798,368	361,804,603	388,827,354	-	750,631,957
25	4,605,526,244	330,759,684	355,463,726	-	686,223,410
26	4,172,717,841	299,676,250	322,058,708	-	621,734,958
27	3,738,044,735	268,458,897	288,509,769	-	556,968,666
28	3,301,908,062	213,263,638	229,192,042	-	442,455,680
29	2,868,431,728	185,266,269	199,103,583	-	384,369,852
30	2,445,941,631	157,978,478	169,777,701	-	327,756,179
31	2,049,008,908	132,341,388	142,225,806	-	274,567,194
32	1,689,889,202	109,146,564	117,298,589	-	226,445,153
33	1,372,887,647	88,672,067	95,294,878	-	183,966,945
34	1,101,125,436	71,119,489	76,431,319	-	147,550,808
35	874,463,909	56,479,875	60,698,289	-	117,178,164
36	688,492,204	44,468,334	47,789,621	-	92,257,955
37	537,149,151	34,693,389	37,284,597	-	71,977,986
38	414,716,319	26,785,698	28,786,289	-	55,571,987
39	316,854,594	20,465,005	21,993,511	-	42,458,516
40	239,689,150	15,481,043	16,637,303	-	32,118,346
41	179,617,531	11,601,137	12,467,612	-	24,068,749
42	133,622,407	8,630,404	9,274,998	-	17,905,402
43	98,593,313	6,367,945	6,843,559	-	13,211,504
44	71,975,711	4,648,767	4,995,978	-	9,644,745
45	52,074,514	3,363,389	3,614,596	-	6,977,985
46	37,212,875	2,403,505	2,583,020	-	4,986,525
47	26,036,834	1,681,667	1,807,269	-	3,488,936
48	17,805,931	1,150,050	1,235,945	-	2,385,995
49	11,710,057	756,329	812,819	-	1,569,148
50	7,218,039	466,199	501,018	-	967,217

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31, 2116
(CONCLUDED)

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
51	\$ 4,118,943	\$ 266,034	\$ 285,904	\$ -	\$ 551,938
52	2,106,380	136,047	146,208	-	282,255
53	941,847	60,832	65,375	-	126,207
54	412,047	26,613	28,601	-	55,214
55	186,592	12,051	12,952	-	25,003
56	66,773	4,313	4,635	-	8,948
57	14,343	926	996	-	1,922
58	588	38	41	-	79
59	-	-	-	-	-
60	-	-	-	-	-
61	-	-	-	-	-
62	-	-	-	-	-
63	-	-	-	-	-
64	-	-	-	-	-
65	-	-	-	-	-
66	-	-	-	-	-
67	-	-	-	-	-
68	-	-	-	-	-
69	-	-	-	-	-
70	-	-	-	-	-
71	-	-	-	-	-
72	-	-	-	-	-
73	-	-	-	-	-
74	-	-	-	-	-
75	-	-	-	-	-
76	-	-	-	-	-
77	-	-	-	-	-
78	-	-	-	-	-
79	-	-	-	-	-
80	-	-	-	-	-
81	-	-	-	-	-
82	-	-	-	-	-
83	-	-	-	-	-
84	-	-	-	-	-
85	-	-	-	-	-
86	-	-	-	-	-
87	-	-	-	-	-
88	-	-	-	-	-
89	-	-	-	-	-
90	-	-	-	-	-
91	-	-	-	-	-
92	-	-	-	-	-
93	-	-	-	-	-
94	-	-	-	-	-
95	-	-	-	-	-
96	-	-	-	-	-
97	-	-	-	-	-
98	-	-	-	-	-
99	-	-	-	-	-
100	-	-	-	-	-

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING
DECEMBER 31, 2116

Year	Projected Beginning Plan Net Position*	Projected Total Contributions	Projected Benefit		Projected Investment Earnings at 7.20%	Projected Ending Plan Net Position
			Payments Including Dividends			
	(a)	(b)	(c)	(d)		(e)=(a)+(b)-(c)+(d)
1	\$ 92,580,102,495	\$ 1,901,874,241	\$ 5,216,912,041	\$ 6,548,500,144	\$ 95,813,564,838	
2	95,813,564,838	1,839,223,279	5,353,453,753	6,774,263,125	99,073,597,490	
3	99,073,597,490	1,821,830,114	5,469,176,955	7,004,276,574	102,430,527,224	
4	102,430,527,224	1,829,231,988	5,614,793,418	7,241,086,267	105,886,052,060	
5	105,886,052,060	1,821,495,974	5,835,992,575	7,481,785,627	109,353,341,087	
6	109,353,341,087	1,775,338,752	6,099,461,027	7,720,477,637	112,749,696,448	
7	112,749,696,448	1,728,364,936	6,377,548,703	7,953,516,391	116,054,029,071	
8	116,054,029,071	1,680,633,276	6,667,002,212	8,179,500,641	119,247,160,776	
9	119,247,160,776	1,631,572,506	6,965,810,341	8,397,100,495	122,310,023,436	
10	122,310,023,436	1,581,209,043	7,265,068,497	8,605,258,976	125,231,422,958	
11	125,231,422,958	1,529,763,054	7,573,596,449	8,802,865,905	127,990,455,469	
12	127,990,455,469	1,476,939,310	7,887,266,172	8,988,551,786	130,568,680,393	
13	130,568,680,393	1,422,555,434	8,197,903,714	9,161,271,593	132,954,603,706	
14	132,954,603,706	1,366,892,993	8,502,000,709	9,320,331,823	135,139,827,813	
15	135,139,827,813	1,310,112,988	8,795,433,159	9,465,279,428	137,119,787,070	
16	137,119,787,070	1,251,890,854	9,088,512,449	9,595,409,443	138,878,574,918	
17	138,878,574,918	1,192,487,335	9,377,422,037	9,709,720,826	140,403,361,042	
18	140,403,361,042	1,132,100,886	9,658,384,880	9,807,430,425	141,684,507,472	
19	141,684,507,472	1,070,380,211	9,932,227,223	9,887,802,651	142,710,463,112	
20	142,710,463,112	1,007,528,692	10,195,300,269	9,950,142,095	143,472,833,630	
21	143,472,833,630	943,922,835	10,440,998,548	9,994,091,346	143,969,849,262	
22	143,969,849,262	879,731,802	10,669,462,393	10,019,524,002	144,199,642,673	
23	144,199,642,673	815,173,020	10,886,386,141	10,026,111,872	144,154,541,423	
24	144,154,541,423	750,631,957	11,090,350,016	10,013,366,400	143,828,189,764	
25	143,828,189,764	686,223,410	11,277,684,447	9,980,963,842	143,217,692,569	
26	143,217,692,569	621,734,958	11,452,543,925	9,928,541,271	142,315,424,873	
27	142,315,424,873	556,968,666	11,615,733,174	9,855,514,223	141,112,174,588	
28	141,112,174,588	442,455,680	11,767,251,524	9,759,469,523	139,546,848,267	
29	139,546,848,267	384,369,852	11,906,312,664	9,639,792,086	137,664,697,541	
30	137,664,697,541	327,756,179	12,028,315,860	9,497,958,782	135,462,096,642	
31	135,462,096,642	274,567,194	12,125,950,228	9,334,036,242	132,944,749,850	
32	132,944,749,850	226,445,153	12,190,448,494	9,148,803,405	130,129,549,914	
33	130,129,549,914	183,966,945	12,220,701,035	8,943,536,209	127,036,352,033	
34	127,036,352,033	147,550,808	12,217,297,365	8,719,658,167	123,686,263,643	
35	123,686,263,643	117,178,164	12,176,015,259	8,478,837,718	120,106,264,266	
36	120,106,264,266	92,257,955	12,099,629,645	8,222,898,317	116,321,790,894	
37	116,321,790,894	71,977,986	11,992,993,959	7,953,471,010	112,354,245,931	
38	112,354,245,931	55,571,987	11,856,431,179	7,672,058,238	108,225,444,977	
39	108,225,444,977	42,458,516	11,690,683,734	7,380,183,894	103,957,403,653	
40	103,957,403,653	32,118,346	11,495,557,955	7,079,421,585	99,573,385,630	
41	99,573,385,630	24,068,749	11,269,679,647	6,771,477,832	95,099,252,563	
42	95,099,252,563	17,905,402	11,012,690,953	6,458,213,029	90,562,680,041	
43	90,562,680,041	13,211,504	10,726,172,573	6,141,549,160	85,991,268,131	
44	85,991,268,131	9,644,745	10,413,929,104	5,823,326,733	81,410,310,506	
45	81,410,310,506	6,977,985	10,082,022,276	5,505,144,431	76,840,410,645	
46	76,840,410,645	4,986,525	9,735,070,304	5,188,314,387	72,298,641,253	
47	72,298,641,253	3,488,936	9,374,897,584	4,873,994,883	67,801,227,487	
48	67,801,227,487	2,385,995	9,002,671,742	4,563,309,315	63,364,251,055	
49	63,364,251,055	1,569,148	8,620,184,531	4,257,348,345	59,002,984,017	
50	59,002,984,017	967,217	8,228,919,828	3,957,156,551	54,732,187,958	

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING
DECEMBER 31, 2116 (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit		Projected Investment Earnings at 7.20%	Projected Ending Plan Net Position
			Payments Including Dividends			
	(a)	(b)	(c)		(d)	(e)=(a)+(b)-(c)+(d)
51	\$ 54,732,187,958	\$ 551,938	\$ 7,829,905,715		\$ 3,663,759,401	\$ 50,566,593,581
52	50,566,593,581	282,255	7,424,596,702		3,378,164,600	46,520,443,735
53	46,520,443,735	126,207	7,014,492,938		3,101,343,436	42,607,420,440
54	42,607,420,440	55,214	6,601,114,341		2,834,226,238	38,840,587,551
55	38,840,587,551	25,003	6,186,266,095		2,577,688,179	35,232,034,638
56	35,232,034,638	8,948	5,771,662,784		2,332,538,116	31,792,918,918
57	31,792,918,918	1,922	5,358,916,071		2,099,522,173	28,533,526,942
58	28,533,526,942	79	4,949,822,269		1,879,317,304	25,463,022,056
59	25,463,022,056	-	4,546,365,697		1,672,512,955	22,589,169,314
60	22,589,169,314	-	4,150,686,061		1,479,592,459	19,918,075,712
61	19,918,075,712	-	3,765,031,638		1,300,915,985	17,453,960,060
62	17,453,960,060	-	3,391,689,145		1,136,706,398	15,198,977,313
63	15,198,977,313	-	3,032,918,365		987,038,916	13,153,097,863
64	13,153,097,863	-	2,690,862,721		851,835,584	11,314,070,727
65	11,314,070,727	-	2,367,418,351		730,867,258	9,677,519,634
66	9,677,519,634	-	2,064,178,657		623,762,480	8,237,103,457
67	8,237,103,457	-	1,782,418,585		530,019,588	6,984,704,461
68	6,984,704,461	-	1,523,091,133		449,020,395	5,910,633,723
69	5,910,633,723	-	1,286,869,064		380,043,499	5,003,808,159
70	5,003,808,159	-	1,074,181,038		322,275,755	4,251,902,875
71	4,251,902,875	-	885,194,500		274,823,846	3,641,532,221
72	3,641,532,221	-	719,769,649		236,728,952	3,158,491,524
73	3,158,491,524	-	577,383,731		206,986,828	2,788,094,622
74	2,788,094,622	-	457,027,310		184,575,779	2,515,643,090
75	2,515,643,090	-	357,158,895		168,492,046	2,326,976,241
76	2,326,976,241	-	275,762,469		157,787,377	2,209,001,149
77	2,209,001,149	-	210,499,639		151,601,799	2,150,103,309
78	2,150,103,309	-	158,930,947		149,185,363	2,140,357,725
79	2,140,357,725	-	118,716,459		149,906,241	2,171,547,507
80	2,171,547,507	-	87,734,773		153,247,862	2,237,060,595
81	2,237,060,595	-	64,137,048		158,799,558	2,331,723,106
82	2,331,723,106	-	46,363,145		166,243,999	2,451,603,960
83	2,451,603,960	-	33,124,335		175,343,734	2,593,823,359
84	2,593,823,359	-	23,372,977		185,928,478	2,756,378,860
85	2,756,378,860	-	16,272,634		197,883,644	2,937,989,871
86	2,937,989,871	-	11,164,893		211,140,320	3,137,965,298
87	3,137,965,298	-	7,540,236		225,666,771	3,356,091,833
88	3,356,091,833	-	5,007,041		241,461,491	3,592,546,284
89	3,592,546,284	-	3,265,926		258,547,802	3,847,828,160
90	3,847,828,160	-	2,091,638		276,969,637	4,122,706,160
91	4,122,706,160	-	1,313,902		296,788,365	4,418,180,623
92	4,418,180,623	-	807,404		318,080,443	4,735,453,662
93	4,735,453,662	-	483,377		340,935,565	5,075,905,850
94	5,075,905,850	-	279,587		365,455,331	5,441,081,594
95	5,441,081,594	-	153,832		391,752,433	5,832,680,194
96	5,832,680,194	-	78,732		419,950,189	6,252,551,651
97	6,252,551,651	-	36,560		450,182,426	6,702,697,516
98	6,702,697,516	-	15,415		482,593,676	7,185,275,777
99	7,185,275,777	-	6,415		517,339,629	7,702,608,991
100	7,702,608,991	-	3,778		554,587,714	8,257,192,927

SINGLE DISCOUNT RATE DEVELOPMENT

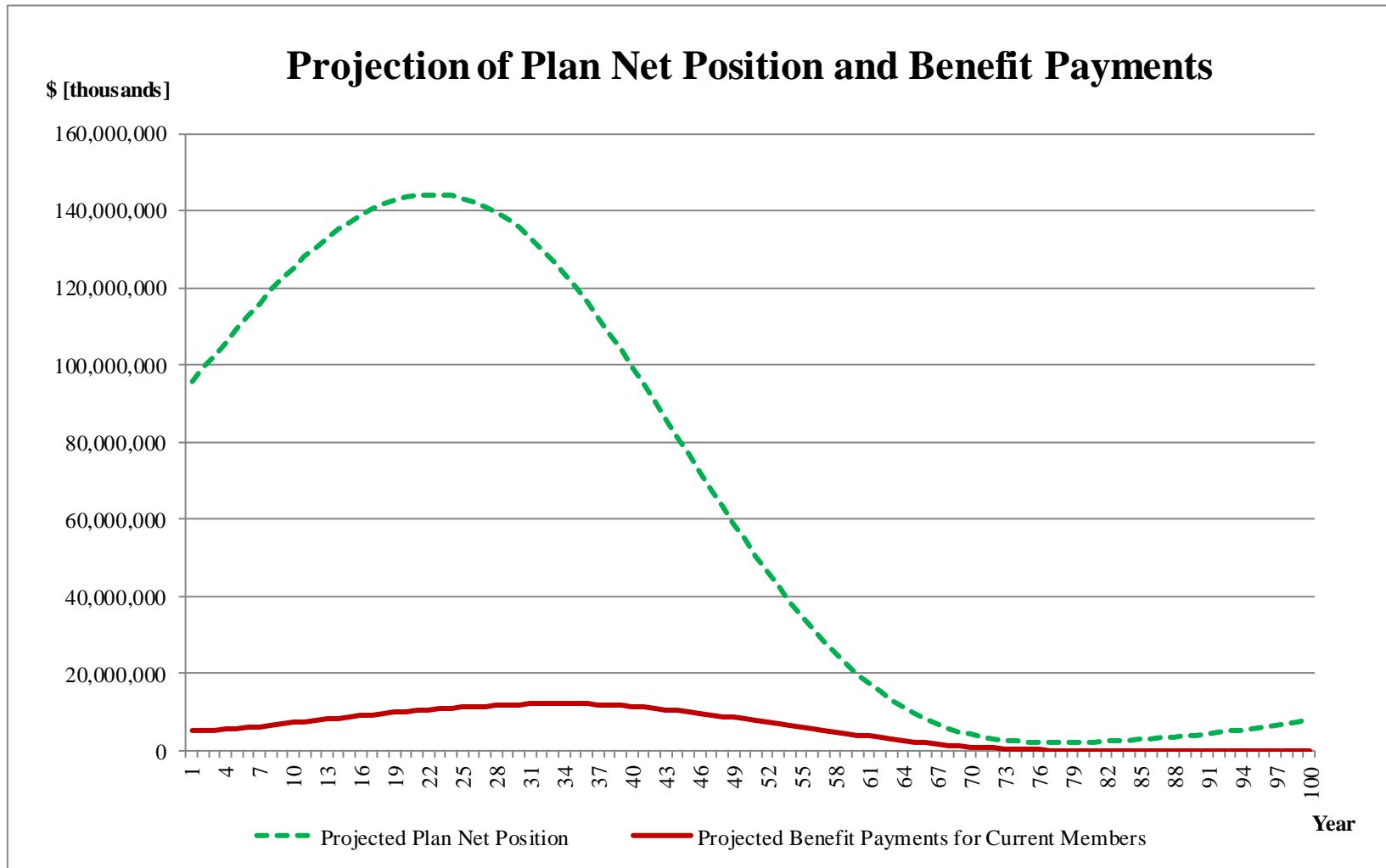
PRESENT VALUES OF PROJECTED BENEFITS

ENDING DECEMBER 31, 2116

Year	Projected Beginning Plan Net Position	Projected Benefit Payments Including Dividends	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+sdrr) ^{(a)-5})
1	\$ 92,580,102,495	\$ 5,216,912,041	\$ 5,216,912,041	\$ -	\$ 5,038,672,389	\$ -	\$ 5,038,672,389
2	95,813,564,838	5,353,453,753	5,353,453,753	-	4,823,273,370	-	4,823,273,370
3	99,073,597,490	5,469,176,955	5,469,176,955	-	4,596,581,997	-	4,596,581,997
4	102,430,527,224	5,614,793,418	5,614,793,418	-	4,402,020,223	-	4,402,020,223
5	105,886,052,060	5,835,992,575	5,835,992,575	-	4,268,135,481	-	4,268,135,481
6	109,353,341,087	6,099,461,027	6,099,461,027	-	4,161,214,865	-	4,161,214,865
7	112,749,696,448	6,377,548,703	6,377,548,703	-	4,058,706,799	-	4,058,706,799
8	116,054,029,071	6,667,002,212	6,667,002,212	-	3,957,944,582	-	3,957,944,582
9	119,247,160,776	6,965,810,341	6,965,810,341	-	3,857,589,138	-	3,857,589,138
10	122,310,023,436	7,265,068,497	7,265,068,497	-	3,753,092,362	-	3,753,092,362
11	125,231,422,958	7,573,596,449	7,573,596,449	-	3,649,697,871	-	3,649,697,871
12	127,990,455,469	7,887,266,172	7,887,266,172	-	3,545,573,278	-	3,545,573,278
13	130,568,680,393	8,197,903,714	8,197,903,714	-	3,437,700,174	-	3,437,700,174
14	132,954,603,706	8,502,000,709	8,502,000,709	-	3,325,764,816	-	3,325,764,816
15	135,139,827,813	8,795,433,159	8,795,433,159	-	3,209,466,485	-	3,209,466,485
16	137,119,787,070	9,088,512,449	9,088,512,449	-	3,093,667,489	-	3,093,667,489
17	138,878,574,918	9,377,422,037	9,377,422,037	-	2,977,621,583	-	2,977,621,583
18	140,403,361,042	9,658,384,880	9,658,384,880	-	2,860,854,456	-	2,860,854,456
19	141,684,507,472	9,932,227,223	9,932,227,223	-	2,744,372,870	-	2,744,372,870
20	142,710,463,112	10,195,300,269	10,195,300,269	-	2,627,856,867	-	2,627,856,867
21	143,472,833,630	10,440,998,548	10,440,998,548	-	2,510,434,737	-	2,510,434,737
22	143,969,849,262	10,669,462,393	10,669,462,393	-	2,393,065,864	-	2,393,065,864
23	144,199,642,673	10,886,386,141	10,886,386,141	-	2,277,723,823	-	2,277,723,823
24	144,154,541,423	11,090,350,016	11,090,350,016	-	2,164,550,871	-	2,164,550,871
25	143,828,189,764	11,277,684,447	11,277,684,447	-	2,053,277,733	-	2,053,277,733
26	143,217,692,569	11,452,543,925	11,452,543,925	-	1,945,068,674	-	1,945,068,674
27	142,315,424,873	11,615,733,174	11,615,733,174	-	1,840,283,852	-	1,840,283,852
28	141,112,174,588	11,767,251,524	11,767,251,524	-	1,739,075,510	-	1,739,075,510
29	139,546,848,267	11,906,312,664	11,906,312,664	-	1,641,443,356	-	1,641,443,356
30	137,664,697,541	12,028,315,860	12,028,315,860	-	1,546,887,236	-	1,546,887,236
31	135,462,096,642	12,125,950,228	12,125,950,228	-	1,454,704,653	-	1,454,704,653
32	132,944,749,850	12,190,448,494	12,190,448,494	-	1,364,218,533	-	1,364,218,533
33	130,129,549,914	12,220,701,035	12,220,701,035	-	1,275,750,055	-	1,275,750,055
34	127,036,352,033	12,217,297,365	12,217,297,365	-	1,189,733,896	-	1,189,733,896
35	123,686,263,643	12,176,015,259	12,176,015,259	-	1,106,076,305	-	1,106,076,305
36	120,106,264,266	12,099,629,645	12,099,629,645	-	1,025,314,731	-	1,025,314,731
37	116,321,790,894	11,992,993,959	11,992,993,959	-	948,020,982	-	948,020,982
38	112,354,245,931	11,856,431,179	11,856,431,179	-	874,277,967	-	874,277,967
39	108,225,444,977	11,690,683,734	11,690,683,734	-	804,156,683	-	804,156,683
40	103,957,403,653	11,495,557,955	11,495,557,955	-	737,625,690	-	737,625,690
41	99,573,385,630	11,269,679,647	11,269,679,647	-	674,563,385	-	674,563,385
42	95,099,252,563	11,012,690,953	11,012,690,953	-	614,907,598	-	614,907,598
43	90,562,680,041	10,726,172,573	10,726,172,573	-	558,684,217	-	558,684,217
44	85,991,268,131	10,413,929,104	10,413,929,104	-	505,989,441	-	505,989,441
45	81,410,310,506	10,082,022,276	10,082,022,276	-	456,961,598	-	456,961,598
46	76,840,410,645	9,735,070,304	9,735,070,304	-	411,600,941	-	411,600,941
47	72,298,641,253	9,374,897,584	9,374,897,584	-	369,750,707	-	369,750,707
48	67,801,227,487	9,002,671,742	9,002,671,742	-	331,221,951	-	331,221,951
49	63,364,251,055	8,620,184,531	8,620,184,531	-	295,848,569	-	295,848,569
50	59,002,984,017	8,228,919,828	8,228,919,828	-	263,451,670	-	263,451,670

SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31, 2116 (CONTINUED)

Year	Projected Beginning Plan Net Position	Projected 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)
		Including Dividends	Funded Portion of Benefit Payments		(f)=(d)*v^(a)-.5)	(g)=(e)*vf^(a)-.5)	(h)=(c)/(1+sdr)^(a)-.5)
51	\$ 54,732,187,958	\$ 7,829,905,715	\$ 7,829,905,715	\$ -	\$ 233,840,576	\$ -	\$ 233,840,576
52	50,566,593,581	7,424,596,702	7,424,596,702	-	206,843,283	-	206,843,283
53	46,520,443,735	7,014,492,938	7,014,492,938	-	182,293,025	-	182,293,025
54	42,607,420,440	6,601,114,341	6,601,114,341	-	160,028,096	-	160,028,096
55	38,840,587,551	6,186,266,095	6,186,266,095	-	139,898,415	-	139,898,415
56	35,232,034,638	5,771,662,784	5,771,662,784	-	121,755,997	-	121,755,997
57	31,792,918,918	5,358,916,071	5,358,916,071	-	105,456,070	-	105,456,070
58	28,533,526,942	4,949,822,269	4,949,822,269	-	90,863,497	-	90,863,497
59	25,463,022,056	4,546,365,697	4,546,365,697	-	77,851,937	-	77,851,937
60	22,589,169,314	4,150,686,061	4,150,686,061	-	66,302,539	-	66,302,539
61	19,918,075,712	3,765,031,638	3,765,031,638	-	56,102,746	-	56,102,746
62	17,453,960,060	3,391,689,145	3,391,689,145	-	47,145,120	-	47,145,120
63	15,198,977,313	3,032,918,365	3,032,918,365	-	39,326,621	-	39,326,621
64	13,153,097,863	2,690,862,721	2,690,862,721	-	32,547,877	-	32,547,877
65	11,314,070,727	2,367,418,351	2,367,418,351	-	26,712,304	-	26,712,304
66	9,677,519,634	2,064,178,657	2,064,178,657	-	21,726,454	-	21,726,454
67	8,237,103,457	1,782,418,585	1,782,418,585	-	17,500,743	-	17,500,743
68	6,984,704,461	1,523,091,133	1,523,091,133	-	13,950,118	-	13,950,118
69	5,910,633,723	1,286,869,064	1,286,869,064	-	10,994,907	-	10,994,907
70	5,003,808,159	1,074,181,038	1,074,181,038	-	8,561,304	-	8,561,304
71	4,251,902,875	885,194,500	885,194,500	-	6,581,219	-	6,581,219
72	3,641,532,221	719,769,649	719,769,649	-	4,991,906	-	4,991,906
73	3,158,491,524	577,383,731	577,383,731	-	3,735,447	-	3,735,447
74	2,788,094,622	457,027,310	457,027,310	-	2,758,198	-	2,758,198
75	2,515,643,090	357,158,895	357,158,895	-	2,010,712	-	2,010,712
76	2,326,976,241	275,762,469	275,762,469	-	1,448,201	-	1,448,201
77	2,209,001,149	210,499,639	210,499,639	-	1,031,218	-	1,031,218
78	2,150,103,309	158,930,947	158,930,947	-	726,294	-	726,294
79	2,140,357,725	118,716,459	118,716,459	-	506,081	-	506,081
80	2,171,547,507	87,734,773	87,734,773	-	348,888	-	348,888
81	2,237,060,595	64,137,048	64,137,048	-	237,919	-	237,919
82	2,331,723,106	46,363,145	46,363,145	-	160,435	-	160,435
83	2,451,603,960	33,124,335	33,124,335	-	106,925	-	106,925
84	2,593,823,359	23,372,977	23,372,977	-	70,380	-	70,380
85	2,756,378,860	16,272,634	16,272,634	-	45,709	-	45,709
86	2,937,989,871	11,164,893	11,164,893	-	29,255	-	29,255
87	3,137,965,298	7,540,236	7,540,236	-	18,430	-	18,430
88	3,356,091,833	5,007,041	5,007,041	-	11,417	-	11,417
89	3,592,546,284	3,265,926	3,265,926	-	6,947	-	6,947
90	3,847,828,160	2,091,638	2,091,638	-	4,150	-	4,150
91	4,122,706,160	1,313,902	1,313,902	-	2,432	-	2,432
92	4,418,180,623	807,404	807,404	-	1,394	-	1,394
93	4,735,453,662	483,377	483,377	-	779	-	779
94	5,075,905,850	279,587	279,587	-	420	-	420
95	5,441,081,594	153,832	153,832	-	216	-	216
96	5,832,680,194	78,732	78,732	-	103	-	103
97	6,252,551,651	36,560	36,560	-	45	-	45
98	6,702,697,516	15,415	15,415	-	18	-	18
99	7,185,275,777	6,415	6,415	-	7	-	7
100	7,702,608,991	3,778	3,778	-	4	-	4
Totals					\$ 111,449,015,098	\$ -	\$ 111,449,015,098



SECTION F

SUMMARY OF ASSUMPTIONS

**SUMMARY OF ASSUMPTIONS
USED TO DEVELOP TOTAL PENSION LIABILITY
ASSUMPTIONS ADOPTED BY ETF BOARD AFTER
CONSULTING WITH ACTUARY**

Economic Assumptions

In determining plan liabilities for accounting purposes, a discount rate of 7.2% is used for both actives and retirees. However, a long term assumed dividend of 2.1% is also assumed. For retirees, this produces the same result as assuming a 5% discount rate. Dividends are not guaranteed, and this valuation develops dividends that reflect known entries (phased-in gains and losses) in the Market Recognition Account (MRA), based on the 7.2% return assumption. The dividend rates used in developing the Total Pension Liability for accounting purposes is as follows:

2017: 2.0% Core, 4.0% Variable
 2018: 0.5% Core, 2.1% Variable
 2019: 0.0% Core, 2.1% Variable
 2020: 0.5% Core, 2.1% Variable
 2021: 1.75% Core, 2.1% Variable
 2022 and later: 2.1% Core, 2.1% Variable

The **Wage Inflation Rate** assumed in this valuation was 3.20% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macro economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes rated to individual merit and seniority effects.

No specific **Price Inflation** assumption is required to perform this valuation. The price inflation assumption used to evaluate the investment return assumption is 2.7%.

The assumed **Real Rate of Return** over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 7.2% pre-retirement investment return rate translates to an assumed real rate of return over wage inflation of 4.0%. The assumed real rate of return over price inflation is 4.5% considering an inflation assumption of 2.7%.

Pay increase assumptions for individual active members are shown for sample services below. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.2% recognizes wage inflation, including price inflation, productivity increases, and other macro economic forces.

% Merit and Longevity Increase Next Year						
Service	Gen.	University Teachers	Public School Teachers	Protective		Exec. & Elec.
				With S.S.	W/O S.S.	
1	3.5 %	3.0 %	5.6 %	4.8 %	5.5 %	2.5 %
2	3.5 %	3.0 %	5.6 %	4.8 %	5.5 %	2.5 %
3	3.1 %	2.9 %	5.2 %	4.1 %	4.7 %	2.0 %
4	2.8 %	2.8 %	4.7 %	3.5 %	3.8 %	1.6 %
5	2.5 %	2.7 %	4.3 %	2.8 %	3.0 %	1.1 %
10	1.5 %	2.2 %	2.6 %	1.1 %	0.9 %	0.2 %
15	1.1 %	1.7 %	1.4 %	0.8 %	0.5 %	0.2 %
20	0.9 %	1.2 %	0.6 %	0.7 %	0.4 %	0.2 %
25	0.6 %	0.9 %	0.3 %	0.6 %	0.3 %	0.2 %
30	0.4 %	0.7 %	0.2 %	0.5 %	0.2 %	0.2 %

DECREMENT PROBABILITIES

The **mortality table** used to measure mortality for retired participants was the Wisconsin 2012 Mortality Table. The rates in this table were based on actual WRS experience adjusted for future mortality improvements using the MP-2015 fully generational improvement scale (multiplied by 50%). This mortality assumption was adopted by the Board in connection with the 2012-2014 Experience Study. Sample retirement values from this table are shown below. This assumption is used to measure the probabilities of participants dying before retirement and the probabilities of each benefit payment being made after retirement.

Single Life Retirement Values Wisconsin 2012 Mortality Table with 5% Interest

Sample Attained Ages in 2016	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
40	\$212.18	\$217.30	44.6	47.9
45	203.58	209.85	39.6	42.8
50	192.84	200.64	34.6	37.8
55	179.99	189.45	29.8	32.9
60	165.62	176.13	25.3	28.1
65	148.39	159.99	20.8	23.5
70	128.80	140.83	16.6	19.0
75	107.08	119.17	12.8	14.8
80	84.34	95.93	9.3	11.0
85	63.12	72.84	6.5	7.8

The values shown above are for non-disabled participants. For disabled participants, the following table was used:

Sample Attained Ages in 2016	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
40	\$198.68	\$207.47	37.2	41.4
45	186.71	197.67	32.2	36.4
50	172.91	185.79	27.5	31.6
55	156.89	171.64	22.9	26.8
60	138.23	154.74	18.6	22.2
65	117.74	134.96	14.6	17.8
70	95.51	112.80	11.0	13.7
75	73.23	89.31	7.8	10.0
80	53.78	66.82	5.4	7.0
85	38.08	48.76	3.6	4.8

ACTIVE PARTICIPANT MORTALITY RATES

Sample Attained Ages	Mortality Rates	
	Males	Females
20	0.000138	0.000079
25	0.000165	0.000088
30	0.000206	0.000118
35	0.000359	0.000210
40	0.000485	0.000298
45	0.000642	0.000466
50	0.000866	0.000690
55	0.002011	0.001221
60	0.002854	0.001755
65	0.004354	0.002683
70	0.007198	0.004555
75	0.012242	0.008257
80	0.022508	0.015445

This assumption is used to measure the probability of participants dying while in service.

RATES OF RETIREMENT FOR THOSE ELIGIBLE TO RETIRE

Normal Retirement

Age	General		Public School		University		Protective*		Exec. & Elected
	Male	Female	Male	Female	Male	Female	With S.S.	W/O S.S.	
50							6%	4%	
51							7%	4%	
52							9%	5%	
53							23%	17%	
54							19%	25%	
55							19%	21%	
56							19%	27%	
57	18%	15%	36%	28%	12%	14%	19%	30%	12%
58	18%	15%	31%	28%	12%	12%	18%	30%	12%
59	18%	15%	24%	28%	12%	10%	16%	30%	12%
60	18%	15%	30%	28%	12%	12%	20%	26%	12%
61	18%	15%	28%	28%	12%	16%	20%	15%	12%
62	25%	25%	37%	36%	12%	14%	22%	20%	12%
63	30%	25%	32%	30%	12%	19%	26%	40%	12%
64	25%	25%	27%	27%	12%	13%	17%	40%	12%
65	25%	28%	29%	35%	15%	18%	30%	40%	12%
66	32%	32%	33%	35%	17%	22%	25%	40%	20%
67	26%	26%	27%	30%	16%	17%	30%	40%	15%
68	19%	22%	24%	30%	16%	16%	30%	40%	15%
69	19%	20%	24%	30%	16%	14%	30%	40%	10%
70	19%	20%	20%	35%	16%	18%	100%	100%	10%
71	19%	20%	20%	30%	18%	18%	100%	100%	10%
72	19%	20%	20%	22%	14%	18%	100%	100%	15%
73	19%	20%	20%	22%	14%	18%	100%	100%	15%
74	19%	20%	20%	22%	10%	18%	100%	100%	15%
75	100%	100%	100%	100%	100%	100%	100%	100%	100%

* Includes reduced retirements for protective with 20+ years of service.

Reduced Retirement

Age	% Retiring Next Year						
	General		Public School		University		Exec. & Elected
	Male	Female	Male	Female	Male	Female	
55	9.0%	7.0%	13.0%	12.0%	4.0%	5.5%	3.0%
56	9.0%	7.0%	13.0%	12.0%	3.0%	5.5%	3.0%
57	4.8%	5.0%	12.0%	12.0%	2.5%	4.0%	3.0%
58	5.8%	6.0%	13.0%	12.0%	2.5%	5.5%	3.0%
59	6.5%	6.0%	14.0%	13.0%	3.0%	6.5%	3.0%
60	8.5%	8.5%	14.0%	17.0%	4.3%	8.0%	5.0%
61	8.5%	8.5%	15.0%	17.0%	5.0%	6.0%	5.0%
62	16.0%	16.0%	21.0%	23.0%	6.0%	12.0%	
63	17.0%	16.0%	21.0%	23.0%	7.0%	12.0%	
64	17.0%	16.0%	21.0%	23.0%	7.0%	12.0%	

The assumed rates of separation from employment prior to service retirement due to disability and other causes are shown below for sample ages. For other terminations it was assumed that a percentage depending on age of participants terminating after age 35 with 5 or more years service will leave their contributions on deposit and be paid a benefit at normal retirement age and that the remaining participants would take a separation benefit. The percentage taking a separation benefit is 25% at age 35, grading downward to 0% at retirement eligibility. All participants terminating prior to normal retirement age with less than 5 years of service were assumed to take a separation benefit.

**Assumed Termination Rates
by Attained Age and Years of Service**

Age	Service	% of Active Participants Terminating								
		Protective		Public Schools		University		Exec. & Elected	General	
		With Soc. Sec.	Without Soc. Sec.	Males	Females	Males	Females		Males	Females
	0	17.0%	4.0%	18.3%	16.0%	16.0%	16.0%	18.0%	16.8%	20.0%
	1	8.0%	3.5%	11.0%	10.8%	14.0%	15.0%	14.0%	12.7%	14.1%
	2	5.0%	1.5%	7.8%	7.7%	12.0%	13.0%	12.0%	9.0%	11.0%
	3	4.3%	1.3%	5.9%	5.8%	10.0%	10.0%	10.0%	7.3%	8.9%
	4	3.8%	1.2%	4.9%	5.0%	8.5%	9.9%	10.0%	7.0%	8.5%
	5	3.1%	1.1%	3.6%	4.3%	8.0%	8.4%	8.0%	4.8%	6.7%
	6	3.0%	1.0%	3.2%	3.8%	7.5%	6.4%	7.0%	4.3%	5.6%
	7	2.9%	0.9%	2.6%	3.4%	5.7%	5.7%	6.0%	4.2%	5.0%
	8	2.5%	0.8%	2.6%	2.8%	4.6%	4.7%	6.0%	3.4%	4.7%
	9	2.2%	0.7%	2.4%	2.5%	4.0%	4.2%	6.0%	3.1%	4.5%
25	10 & Over	2.0%	0.7%	1.3%	2.2%	4.0%	5.0%	6.0%	2.5%	4.5%
30		1.8%	0.7%	1.3%	1.9%	3.9%	4.6%	5.1%	2.5%	4.3%
35		1.6%	0.7%	1.3%	1.6%	3.6%	4.2%	4.3%	2.4%	3.5%
40		1.3%	0.6%	1.3%	1.3%	3.1%	3.4%	4.1%	2.1%	2.7%
45		1.1%	0.6%	1.3%	1.1%	2.3%	2.6%	3.2%	1.8%	2.2%
50		1.0%	0.5%	1.3%	1.0%	1.9%	2.1%	2.5%	1.5%	1.9%
55		1.0%	0.5%	1.3%	1.0%	1.8%	2.0%	2.4%	1.5%	1.8%
60		1.0%	0.5%	1.3%	1.0%	1.8%	2.0%	2.4%	1.5%	1.8%

Disability Rates

Age	% of Active Participants Becoming Disabled									
	Protective		Public Schools		University		Exec. & Elected		General	
	With SS	W/O SS	Males	Females	Males	Females	Males	Females	Males	Females
20	0.01%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%
25	0.01%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%
30	0.01%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%
35	0.02%	0.04%	0.01%	0.01%	0.00%	0.02%	0.01%	0.01%	0.01%	0.03%
40	0.02%	0.06%	0.01%	0.02%	0.01%	0.03%	0.01%	0.01%	0.03%	0.04%
45	0.03%	0.11%	0.03%	0.05%	0.01%	0.03%	0.01%	0.01%	0.06%	0.06%
50	0.06%	0.64%	0.08%	0.10%	0.02%	0.06%	0.02%	0.02%	0.13%	0.09%
55	0.87%	0.48%	0.16%	0.14%	0.05%	0.09%	0.09%	0.09%	0.24%	0.16%
60	1.46%	0.14%	0.26%	0.21%	0.07%	0.13%	0.11%	0.11%	0.43%	0.23%

SECTION G

PLAN PROVISIONS

SUMMARY OF BENEFIT PROVISIONS

Normal Retirement Eligibility

The age a participant becomes eligible for an unreduced age and service annuity is:

General		Protective		Executive & Elected	
Age	Service	Age	Service	Age	Service
65	Any*	54	Any*	62	Any*
57	30	53	25	57	30

* Participants first employed after 1989 and terminated before April 24, 1998 must have creditable service in 5 calendar years.

Normal Retirement Annuity

The age and service annuity payable at Normal Retirement Age is based on Final Average Earnings (FAE) and Creditable Service (CS) as follows:

Multiplier for Service Rendered			Group
Before 2000	Between 2000 and 2011	After 2011	
2.165%	2.0%	1.6%	Executive group and elected officials
2.165%	2.0%	2.0%	Protective occupation participants covered by Social Security
2.665%	2.5%	2.5%	Protective occupation participants not covered by Social Security
1.765%	1.6%	1.6%	All other participants

FAE is generally the average of the 3 highest years of earnings (July 1 - June 30 for teachers, educational support staff, and judges; calendar year for others) preceding retirement. These years do not have to be consecutive. For legislators and state constitutional officers who are ineligible to receive pay increases during their term, FAE is the statutory rate of earnings at termination.

Maximum formula annuity is 85% of FAE for protective occupation participants not covered by Social Security, 65% of FAE for protectives covered by Social Security, and 70% for all other participants. If greater than the formula amount, an annuity equal to the actuarial equivalent of two times the required accumulated contributions is paid in lieu of the formula amount.

Early Retirement. Any participant who has attained age 55 and any Protective occupation participant who has attained age 50 may apply for an early retirement annuity. The benefit is reduced 0.4% for each month that the annuity effective date precedes the Normal Retirement Age. For Non-Protective participants terminating after 6/30/90, the 0.4% is reduced for months after the attainment of age 57 and before the annuity effective date by .001111% for each month of creditable service.

Voluntary Termination Before Immediate Benefit Eligibility. Participant may either (i) receive a refund of accumulated contributions, or (ii) leave contributions on deposit and apply for a retirement annuity on or after the minimum retirement age based upon age and accrued service at time of termination.

Post-Retirement Adjustments. Annuities are increased annually if the investment income credited to retired life funds is in excess of the assumed benefit rate (presently 5%), other plan experiences are within projected ranges, and the resulting adjustment would be at least 0.5%.

Disability Annuity. Eligibility: generally total and permanent incapacity to engage in gainful employment. Participant must have completed at least 6 months of creditable service (in at least 5 out of the last 7 calendar years) preceding application for disability. Service requirement is waived if disability is from service-related causes.

For protective occupations, eligibility also can be met if a member has 15 years of service, is between the ages of 50 and 55 and unable to safely and efficiently perform one's duties.

Disability Amounts. Amounts payable in case of disability depend upon the plan from which payment is made and are described below.

	Pre-10/16/92 WRS Plan	Post-10/15/92 LTDI Plan
Participants covered	Participants hired before 10/16/92 who do not elect LTDI coverage.	Participants entering after 10/15/92 and participants on 10/15/92 who elect LTDI coverage.
Benefit to age 65*	WRS formula benefit based on service projected to normal retirement age.	40% of FAE for participants covered by Social Security; 50% of FAE for non-covered participants who cannot qualify for Social Security disability benefits.
Benefit at age 65*	Continuation of pre-65 amount.	WRS benefit accrued to date of disability plus 7% of FAE money purchase benefit during disability period, both of which are adjusted in accordance with dividend rate.

* Conversion age is later for participants becoming disabled after age 61.

Death-in-Service.

- (a) Prior to age 50 for Protective participants, age 55 for others, the benefit is the equivalent of twice the accumulated employee contributions required and all additional contributions and employer amounts contributed prior to 1974 for teachers, or 1966 for others.
- (b) After age 50 for Protective participants, age 55 for others, the benefit is the amount that would have been paid if participant had retired and elected 100% survivor option. Benefit is payable to any natural living person.

Interest Credits. For years after 1999, and for people with some active service after 1999, participant core accounts (including the variable at core accounts) are credited with interest at the full (core) effective rate. For others, accounts are credited with interest as follows:

Date of Participation	Rate Credited For Purpose of	
	Money Purchase	Refunds
	Minimum	
Prior to 1982	Actual	Actual
January 1, 1982 & Later	5%	3%

Participant variable accounts are credited with interest based on the earnings in the variable portfolio.

Contribution Rates. The financial objective of WRS is to establish and receive contributions that will remain level from year to year and decade to decade.

Statutory required participant contributions prior to July 1, 2011 were as follows:

General	5.0%
Executives & Elected	
Officials	5.5
Protectives	
- With Social Security	6.0
- Without Social Security	8.0

Statutory required participant contributions after July 1, 2011 are set equal to one-half of the actuarially determined rate for General participants and Executive and Elected Officials. Participant contributions for Protective participants are set equal to the participant contribution for General members.

Normal Form of Benefit. The normal form of benefit is a straight life annuity with no death benefits. Optional forms of benefit which are actuarially reduced are listed below:

- A life annuity with 60 or 180 monthly payments guaranteed.
- A joint survivorship annuity with 75% continued to beneficiary.
- A joint survivorship annuity with 100% continued to beneficiary.
- A joint survivorship annuity reduced 25% upon either your death or your beneficiary's death.
- A joint survivorship annuity with 100% continued to beneficiary combined with 180 monthly payments guaranteed.

For formula benefit calculations, optional forms are calculated at the lower of the current age or age 62 (Normal Retirement Age for Protective occupations).

Vesting. Participants hired prior to July 1, 2011 vest immediately. After July 1, 2011, participants vest after 5 years of service.

SECTION H
GLOSSARY OF TERMS

GLOSSARY OF TERMS

<i>Actuarial Accrued Liability (AAL)</i>	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."
<i>Actuarial Assumptions</i>	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.
<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Equivalent</i>	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.
<i>Actuarial Cost Method</i>	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.
<i>Actuarial Gain (Loss)</i>	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.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	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.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

GLOSSARY OF TERMS

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	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).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	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.
<i>Covered-Employee Payroll</i>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Deferred Inflows and Outflows</i>	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.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> 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.

GLOSSARY OF TERMS

<i>Entry Age Actuarial Cost Method (EAN)</i>	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.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>Long-Term Expected Rate of Return</i>	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.
<i>Money-Weighted Rate of Return</i>	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.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	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.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contribution Entities</i>	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 statement plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

GLOSSARY OF TERMS

<i>Other Postemployment Benefits (OPEB)</i>	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.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"> 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.