

CITY OF GRAND RAPIDS GENERAL RETIREMENT SYSTEM GASB STATEMENT NO. 67 PLAN REPORTING AND ACCOUNTING SCHEDULES
JUNE 30, 2015



December 7, 2015

Board of Trustees City of Grand Rapids General Retirement System Grand Rapids, Michigan

#### Dear Board Members:

This report provides information required by the Retirement System in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans."

Our actuarial calculations for 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 accounting standard.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 67. 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. This report may be provided to parties other than the City of Grand Rapids General Retirement System ("the System") only in its entirety and only with the permission of the City of Grand Rapids General Retirement System.

The valuation was based upon information, furnished by System staff, 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 otherwise audit the data. We are not responsible for the accuracy or completeness of the data provided by the System.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. James D. Anderson is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the Academy of Actuaries to render the actuarial opinions contained herein.

The signing individuals are independent of the plan sponsor.

Board Members December 7, 2015 Page 2

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the Plan's financial statements.

Respectfully submitted,

James D. Anderson, FSA, MAAA

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David L. Hoffman

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#### TABLE OF CONTENTS

	<u>Pag</u>
Section A	Executive Summary
	Executive Summary
	Discussion
Section B	Financial Statements
	Statement of Fiduciary Net Position5
	Statement of Changes in Fiduciary Net Position6
Section C	Required Supplementary Information
	Schedule of Changes in Net Pension Liability and Related Ratios Multi-year7
	Schedule of Net Pension Liability Multi-year8
	Schedule of Contributions Multi-year9
	Notes to Schedule of Contributions
Section D	Notes to Financial Statements
	Long-Term Expected Return on Plan Assets11
	Single Discount Rate12
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption13
	Summary of Population Statistics14
Section E	Summary of Benefits15
Section F	Actuarial Cost Method and Actuarial Assumptions
	Valuation Methods27
	Projection of Future Amortization Payments
	Actuarial Assumptions Used for the Valuation
	Miscellaneous and Technical Assumptions
Section G	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate34
	Projection of Contributions35
	Projection of Plan Fiduciary Net Position36
	Present Values of Projected Benefit Payments
	Projection of Plan Net Position and Benefit Payments39
Section H	Glossary of Terms 40



# EXECUTIVE SUMMARY AS OF JUNE 30, 2015

Actuarial Valuation Date	June 30, 2015
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	June 30, 2015
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Membership	
Number of	
- Retirees and Beneficiaries	1,126
- Inactive, Nonretired Members	102
- Active Members	653
- Total	1,881
Covered Payroll	\$ 38,492,586
Net Pension Liability	
Total Pension Liability	\$ 500,205,954
Plan Fiduciary Net Position	414,664,005
Net Pension Liability	\$ 85,541,949
Plan Fiduciary Net Position as a Percentage	Ψ 00,011,515
of Total Pension Liability	82.90%
Net Pension Liability as a Percentage	
of Covered Payroll	222.23%
Development of the Single Discount Rate	
Single Discount Rate	7.25%
Long-Term Expected Rate of Return	7.25%
Long-Term Municipal Bond Rate	3.80%
	3.0070
Year when the Plan Fiduciary Net Position is Projected to	<b>N</b> T / A
no Longer be Sufficient to Make Projected Benefit Payments	N/A

#### **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 new 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; 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).

#### **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 June 30, 2015 and a measurement date of June 30, 2015.

#### **Single Discount Rate**

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.80% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve); and the resulting single discount rate is 7.25%.



# STATEMENT OF FIDUCIARY NET POSITION AS OF JUNE 30, 2015

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Cash and Deposits	\$	5,784,639	
Receivables			
Accounts Receivable - Sale of Investments	\$	1,716,254	
Accrued Interest and Other Dividends		496,339	
Contributions		931,636	
Accounts Receivable - Other		-	
Total Receivables	\$	3,144,229	
Investments			
Fixed Income	\$1	03,127,139	
Domestic Equities	1	66,306,779	
International Equities	94,747,597		
Real Estate	18,040,247		
Other		24,491,301	
Total Investments	\$4	06,713,063	
Total Assets	\$4	15,641,931	
Liabilities			
Payables			
Accounts Payable - Purchase of Investments	\$	642,308	
Accrued Expenses		335,618	
Accounts Payable - Other		_	
Total Liabilities	\$	977,926	
Net Position Restricted for Pensions	\$4	14,664,005	

# STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED JUNE 30, 2015

#### Additions

Contributions	
Employer	\$ 11,327,704
Member	3,473,382
Other	
Total Contributions	\$ 14,801,086
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 7,712,237
Interest and Dividends	4,768,123
Less Investment Expense	(980,203)
Net Investment Income	\$ 11,500,157
Other	\$ -
Total Additions	\$ 26,301,243
Deductions	
Benefit Payments and Refunds	\$ 39,853,430
Pension Plan Administrative Expense	567,869
Other	21,477
<b>Total Deductions</b>	\$ 40,442,776
Net Increase in Net Position	\$ (14,141,533)
Net Position Restricted for Pensions	
Beginning of Year	\$428,805,538
End of Year	\$ 414,664,005



# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS

#### ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

Measurement Date - June 30,	 2015	2014	2013
<b>Total Pension Liability</b>			
Service Cost	\$ 6,348,067	\$ 6,904,650	\$ 7,294,537
Interest on the Total Pension Liability	33,287,484	33,394,709	32,920,147
Benefit Changes	20,882	-	-
Difference between Expected and Actual Experience of the Total Pension Liability	10,083,648	(7,420,169)	(6,012,166)
Assumption Changes	29,733,502	-	-
Benefit Payments	(39,570,343)	(28,055,439)	(27,037,516)
Refunds	 (283,087)	(152,273)	(114,916)
Net Change in Total Pension Liability	39,620,153	4,671,478	7,050,086
Total Pension Liability - Beginning	\$ 460,585,801	455,914,323	448,864,237
Total Pension Liability - Ending (a)	\$ 500,205,954	\$ 460,585,801	\$ 455,914,323
Plan Fiduciary Net Position			
Contributions - Employer	\$ 11,327,704	\$ 8,771,032	\$ 8,135,843
Contributions - Member	3,473,382	3,737,014	3,933,341
Pension Plan Net Investment Income	11,500,157	65,337,996	44,058,818
Benefit Payments	(39,570,343)	(28,055,439)	(27,037,516)
Refunds	(283,087)	(152,273)	(114,916)
Pension Plan Administrative Expense	(567,869)	(523,086)	(476,059)
Other	 (21,477)	(21,741)	(15,873)
Net Change in Plan Fiduciary Net Position	(14,141,533)	49,093,503	28,483,638
Plan Fiduciary Net Position - Beginning	 428,805,538	379,712,035	351,228,397
Plan Fiduciary Net Position - Ending (b)	\$ 414,664,005	\$ 428,805,538	\$ 379,712,035
Net Pension Liability - Ending (a) - (b)	\$ 85,541,949	\$ 31,780,263	\$ 76,202,288
Plan Fiduciary Net Position as a Percentage			
of Total Pension Liability	82.90 %	93.10 %	83.29 %
Covered-Employee Payroll #	\$ 38,492,586	\$ 40,510,955	\$ 43,783,450
Net Pension Liability as a Percentage			
of Covered-Employee Payroll	222.23 %	78.45 %	174.04 %
Notes to Schedule:			
N/A			

<sup>#</sup> Does not necessarily represent Covered Employee Payroll as defined in GASB Statements No. 67 and 68.

# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF THE EMPLOYERS' NET PENSION LIABILITY ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

	Total			<b>Plan Net Position</b>		<b>Net Pension Liability</b>
FY Ending	Pension	Plan Net	Net Pension	as a % of Total	Covered	as a % of
<b>June 30</b> ,	Liability	Position	Liability	Pension Liability	Payroll#	Covered Payroll
2013	\$ 455,914,323	\$ 379,712,035	\$ 76,202,288	83.29%	\$ 43,783,450	174.04%
2014	460,585,801	428,805,538	31,780,263	93.10%	40,510,955	78.45%
2015	500,205,954	414,664,005	85,541,949	82.90%	38,492,586	222.23%

<sup>#</sup> Does not necessarily represent Covered Employee Payroll as defined in GASB Statements No. 67 and 68.

### SCHEDULE OF CONTRIBUTIONS ULTIMATELY 10 FISCAL YEARS WILL BE DISPLAYED

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	•		Covered Payroll #	Actual Contribution as a % of Covered Payroll
2013	\$8,135,843	\$8,135,843	\$	-	\$43,783,450	18.58%
2014 2015	8,771,032 11,327,704	8,771,032 11,327,704		-	40,510,955 38,492,586	21.65% 29.43%

<sup>\*</sup> Actual contributions are based on covered payroll at the time of the contribution. Since it was reported to the actuary that the City's practice is to contribute the percent-of-payroll employer contribution rate shown in the actuarial valuation report, the annual required contributions shown in the Schedule of Employer Contributions are the actual contributions made by the City in the fiscal year.

<sup>#</sup> Does not necessarily represent Covered Employee Payroll as defined in GASB Statements No. 67 and 68.

#### NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: June 30, 2015

Notes Actuarially determined contribution rates are calculated

as of June 30, which is 1 year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method Individual Entry Age Normal

Amortization Method Level Dollar, Closed

Remaining Amortization Period 24 years beginning 7/1/2015

Asset Valuation Method 5-Year Smoothed Market

Inflation 2.75% -- approximate; No explicit price inflation

assumption is used in this valuation.

Salary Increases 3.5% to 7.7% including inflation

Investment Rate of Return 7.25%

Retirement Age Experience-based table of rates that are specific to the

type of eligibility condition. Last updated for the 2015 valuation pursuant to an experience study of the period

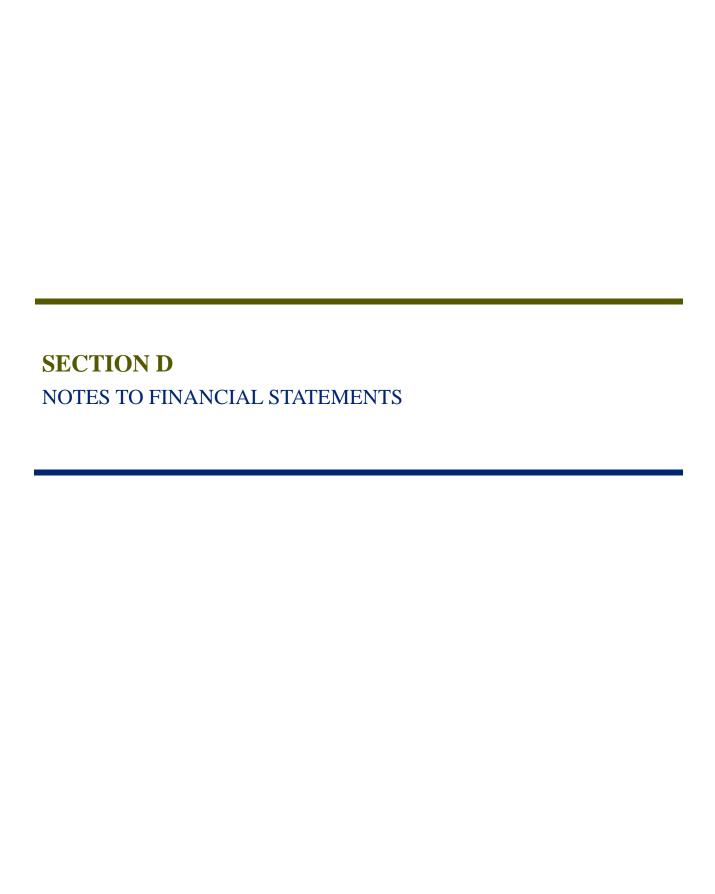
2010 - 2014.

Mortality RP-2014 Healthy Annuitant Mortality Table projected to

2019 using MP-2014 mortality improvement scale.

Other Information:

Notes



#### **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.

Based on information provided by the System's Investment Advisor, we used capital market expectations for each major asset class that is included in the plan's current asset allocation as of June 30, 2015; the best estimates for the long-term expected return are summarized in the following table:

		Long-Term Expected
Asset Class	<b>Target Allocation</b>	Real Rate of Return
U.S. Stocks	22.50%	6.00%
Global Stocks	22.50%	6.22%
Private Markets	5.00%	10.98%
Core Bonds	12.50%	1.78%
LT Core Bonds	12.50%	2.60%
TIPS	10.00%	1.38%
U.S. RE Securities	5.00%	4.80%
Commodities	5.00%	3.13%
MLP	5.00%	8.95%
Total	100.00%	
Total Real Rate of Return		4.84%
Plus: Price Inflation - Actuar	y's Assumption	2.75%
Less: Investment Expenses (	(Passive)	0.25%
Net Expected Return		7.34%

#### **Single Discount Rate**

A single discount rate of 7.25% 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 7.25%. 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 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 7.25%, 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 the Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount					
	1% Decrease		Rate Assumption		1% Increase	
	6.25%		7.25%		8.25%	
<b>Total Pension Liability</b>	\$	556,069,630	\$	500,205,954	\$	453,045,225
<b>Plan Net Position</b>		414,664,005		414,664,005		414,664,005
Net Pension Liability	\$	141,405,625	\$	85,541,949	\$	38,381,220

#### **Summary of Population Statistics**

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,126
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	102
Active Plan Members	653
Total Plan Members	1,881



### SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2015)

**Voluntary Retirement.** A member may retire after 30 years of service regardless of age, or after attaining age 62 and completing 8 years of service. Effective January 1, 2001, members covered by the Emergency Communications Operators Bargaining Unit may retire after attaining age 55 and completing 8 years of service.

*Final Average Salary (FAS)*. The average of member's highest annual salary rates, all before completion of the calendar year in which the member attains 40 years of service or reaches the benefit cap, during the three calendar years of credited service when such salary rates were the highest.

Members of the Crime Scene Technicians group have an additional sum added to their FAS, effective July 1, 2000. The sum is calculated based on an average of the group's additional compensation items during the previous three calendar years and the average of the group's valuation payroll as of June 30 for the five-year period immediately preceding the valuation.

Emergency Communication Operators I, II, and III also have an additional sum added to their FAS, effective July 1, 2005. The sum is calculated based on an average of the group's additional compensation items during the previous five calendar years and the average of the group's valuation payroll as of June 30 for the five-year period immediately preceding the valuation.

Members who retire with 10 or more years of continuous service may use up to two thousand eighty (2,080) hours (1,265 for Crime Scene Technician members) of accumulated sick leave to purchase up to one (1) year of additional credited service, on a pro rata basis.

*Full Age and Service Allowance*. The members' benefit multipliers, used to compute full age and service allowance, are shown in the tables on the following page.

In lieu of this single life-level amount form of payment, a retiring member may elect from several optional forms of payment, each of which is the actuarial equivalent of this single life-level payment form.

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
ECO's I, II and III	January 1, 2002 –	2.7%	
ECO's I, II and III	March 31, 2012 April 1, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after April 1, 2012 depending on the individual election made by the employee as provided in Section 1.229(10)  Bargaining unit members hired on or after January 24, 2012 do not participate in the Retirement System	100% applicable to ECO's I, II and III hired on or before May 6, 2002 90% applicable to ECO's I, II, and III hired from May 7, 2002 – January 23, 2012
GRPOA-Crime Scene Tech/Latent Print Examiners	July 1, 2002 – July 7, 2012	2.7%	100% applicable to CST's hired prior to January 1, 2002 90% applicable to CST's hired from January 1, 2002 – November 14, 2011
GRPOA-Crime Scene Tech/Latent Print Examiners	July 8, 2012	2.7% or 2.5% or 2.2% or 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(9)  Bargaining unit members hired on or after November 15, 2011 do not participate in the Retirement System	100% applicable to CST's hired prior to January 1, 2002  90% applicable to CST's hired from January 1, 2002 – November 14, 2011
APAGR	January 1, 2003 – December 31, 2004	2.6%	97.5% for employees hired prior to January 1, 2005
APAGR	January 1, 2005 – June 11, 2011	2.7%	
APAGR	June 12, 2011	2.7% or 2.5% or 2.2% for future service from and after June 12, 2011, depending on the individual election made by the employee as provided in Section 1.229(3)  2.0% for members hired or reentering service on or after June 12, 2011	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired from January 1, 2005 – June 30, 2014

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
APAGR 61st Dist. Court	January 1, 2003 – December 31, 2004	2.6%	97.5% for employees hired prior to January 1, 2005
APAGR 61st Dist. Court	January 1, 2005 – July 7, 2012	2.7%	
APAGR 61st Dist. Court	July 8, 2012	2.7%, or 2.5%, or 2.2%, or 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(8)  Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired on or after January 1, 2005 – September 12, 2011
Non-Represented Members as defined in Section 1.192(18.1)	January 1, 2005 – September 4, 2010	2.7%	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired on or after January 1, 2005
Non-Represented Members as defined in Section 1.192(18.1)	September 5, 2010	2.7% or 2.5% or 2.2% for future service from and after September 5, 2010, depending on the individual election made by the employee as provided in Section 1.229(1)  2.0% for non-represented members hired or re-entering service from September 5, 2010 through June 30, 2011  Bargaining unit members hired on or after July 1, 2011 do not participate in the Retirement System	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 – June 30, 2011
61 <sup>st</sup> District Court Judges	January 1, 2005 – January 8, 2011	2.7%	97.5%

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
61 <sup>st</sup> District Court Judges	January 9, 2011	2.7% or 2.5% or 2.2% for future service from and after January 9, 2011, depending on the individual election made by the employee as provided in Section 1.229(2)	97.5%
Museum Full-Time Supervisory and Administrative Staff and Museum Non-Supervisory Staff	January 1, 2005 – June 30, 2006	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired on
Library Management and	January 1, 2005 –	2.7%	or after January 1, 2005
Confidential Employees  EC Supervisors	September 4, 2010 January 1, 2006 – January 7, 2012	2.7%	
EC Supervisors	January 8, 2012 –	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after January 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(5)  Bargaining unit members	90% applicable for all employees entering this unit after July 1, 2004
		hired on or after September 13, 2011 do not participate in the Retirement System	
GREIU	January 1, 2005 – July 7, 2012	2.7%	
GREIU	July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(4)	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 – May 24, 2011
		Bargaining unit members hired on or after May 25, 2011 do not participate in the Retirement System	

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]	
GREIU - Public Library Rank & File and Supervisory Bargaining Units	January 1, 2006 – July 7, 2012	2.7%		
GREIU - Public Library Rank & File and Supervisory Bargaining Units	July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(6)	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired from January 1, 2005 – September 1, 2011	
GREIU - 61st District Court	January 1, 2005 –	Bargaining unit members hired on or after September 2, 2011 do not participate in the Retirement System 2.7%		
GREIU - 61st District Court	July 7, 2012 July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(7)	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired from January 1, 2005 – September 12, 2011	
		Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System		

*Early Allowance*. If a member leaves covered employment after either (i) completing 20 years of credited service, or (ii) both attaining age 55 and completing 10 years or more of credited service, he can receive an immediate early allowance, computed in the same manner as an age and service allowance based upon salary and service to time of termination but actuarially reduced to reflect the fact that the age when payments begin is younger than age 62.

**Deferred Retirement.** A member with 8 or more years of credited service who terminates employment before voluntary retirement age and does not withdraw accumulated contributions will be eligible for a deferred allowance beginning at age 62, based upon service and final average salary at time of termination.

**Death Benefit.** If the member's termination of employment is because of death, a benefit equal to the termination benefit is payable to a beneficiary or estate, as follows:

A refund of accumulated contributions. In addition, a "termination bonus" equivalent to a certain percent of member contributions without interest may be payable. Such percent is 25%, plus 7.5% for each whole year of credited service in excess of 10 years, to a maximum of 100% for 20 or more years service, times an age-based Termination Bonus Percent.

If the member was eligible for normal or early retirement at the time of death, in lieu of the lump sum death benefit an eligible beneficiary will begin receiving a B-100 joint and survivor pension computed in the same manner as a service retirement pension as if the member had retired the last day of his life.

Or, if the member was not represented by any collective bargaining unit or was represented by the Association of Public Administrators, the Grand Rapids Employees Independent Union or the 61<sup>st</sup> District Court Employee's Association, and the primary beneficiary was the surviving spouse, the benefit will be computed in the manner described in the preceding paragraph, except that the member will have been assumed to have reached the age for minimum service retirement at the date of his death.

The total amount of death benefit payable cannot exceed 90% of the member's annual rate of compensation at the time of death reduced by any worker's compensation or social security payments.

**Disability Benefit.** If a member has 10 or more years of credited service before attaining the minimum service retirement age and becomes totally and permanently disabled, a benefit computed in the same manner as a full age and service benefit is payable. If disablement is a result of performance of duty, the 10-year minimum credited service requirement is waived and the benefit is computed as above with a minimum benefit of 50% (62% for those represented by police bargaining units) of final average salary.

The total amount of benefit payable due to disablement cannot exceed 90% of the member's annual rate of compensation at the time of disablement reduced by any worker's compensation payments, Social Security benefits, (disability benefits), and remuneration from any gainful employment.

*Member Contributions*. The contribution rates used are defined in the following table:

Member Classification	Period	Contribution Rate
Non-Represented Members, as defined	On or before July 1, 1977	3%
in Section 1.192(18.1), excluding secretarial or clerical members designated as management non-union	July 2, 1977 to December 31, 1994	4%
for payroll purposes, and excluding the	L 1 1005 to D	20/
Executive Administrative Assistant at the Grand Rapids Public Library	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	4.93%
	On or after September 5, 2010	10.20%, or 8.95% or 7.28%, depending on the individual election made by the member as provided in Section 1.229(1)
		6.15% for those non-represented members
		hired or re-entering service from September
		5, 2010 through June 30, 2011

Member Classification	Period	Contribution Rate
Non-Represented Members, as defined	On or before July 1, 1977	3%
in Section 1.192(18.1), including only secretarial or clerical members designated as management non-union for payroll purposes, and including the	July 2, 1977 to December 31, 1994	4%
Executive Administrative Assistant at the Grand Rapids Public Library	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	4.93%
	September 5, 2010 to July 23, 2011	10.20%, or 8.95% or 7.28%, depending on the individual election made by the member as provided in Section 1.229(1)
		6.15% for those non-represented members hired or re-entering service from September 5, 2010 through June 30, 2011
	On or after July 24, 2011	8.10% for members who elected a 2.7% multiplier under Section 1.229(1); 6.85% for members who elected a 2.5% multiplier under Section 1.229(1); 5.18% for members who elected a 2.2% multiplier under Section 1.229(1); 4.05% for members with a 2.0% multiplier who were hired or re-entered service from September 5, 2010 through June 30, 2011
Emergency Communications Operators	On or before July 1, 1977	3%
I, II and III represented by GRPOLC	July 2, 1977 to January 1, 1990	4%
	January 2, 1990 to January 1, 1991	3%
	January 2, 1991 to December 31, 1996	2%
	January 1, 1997 to June 30, 2005	2.28%
	July 1, 2005 to March 31, 2012	5.36%
	On or after April 1, 2012	10.63%, or 9.38%, or 7.71%, or 6.58%, or 5.36%, depending on the individual election made by the member as provided in Section 1.229(10)

Member Classification	Period	Contribution Rate
Emergency Communication Supervisors	On or before December 31, 2005	3.28%
	January 1, 2006 to January 7, 2012	6.27%
	On or after January 8, 2012	11.54%, or 10.29%, or 8.62%, or 7.49%, or 6.27%, depending on the individual election made by the member as provided in Section 1.229(5)
Crime Scene Techs/Latent Print	On or before July 1, 1977	3%
Examiners represented by the GRPOA	July 2, 1977 to July 1, 1989	4%
	July 2, 1989 to July 1, 1990	3%
	July 2, 1990 to July 7, 2012	2%
	July 8, 2012 – June 30, 2014	7.27%, or 6.02%, or 4.35%, or 3.22%, or 2.00%, depending on the individual election made by the member as provided in Section 1.229(9)
	On or after July 1, 2014	8.27%, or 7.02%, or 5.35%, or 4.22%, or 3.00%, depending on the individual election made by the member as provided in Section 1.229(9)
GREIU	On or before July 1, 1977	3%
	July 2, 1977 to January 1, 1990	4%
	January 2, 1990 to December 31, 1996	3%
	January 1,1997 to December 31, 2004	3.28%
	January 1, 2005 to July 7, 2012	3.89%
	On or after July 8, 2012	9.16%, or 7.91%, or 6.24%, or 5.11%, or 3.89%, depending on the individual election made by the member as provided in Section 1.229(4)
GREIU - 61st District Court	Prior to January 1, 1990	4%
	January 1, 1990 to December 31, 1996	3%
	January 1, 1997 to May 31, 2005	3.28%
	June 1, 2005 to July 7, 2012	4%
	On or after July 8, 2012	9.16%, or 7.91%, or 6.24%, or 5.11%, or 3.89%, depending on the individual election made by the member as provided in Section 1.229(7)

Member Classification	Period	Contribution Rate
GREIU - Public Library Rank & File	On or before July 1, 1977	3%
and Supervisory Bargaining Units	July 2, 1977 to January 1, 1988	4%
	January 2, 1988 to May 13, 1990	4.91%
	May 14, 1990 to December 31, 1996	4%
	January 1, 1997 to December 31, 2005	3.28%
	January 1, 2006 to July 7, 2012	3.63%
	On or after July 8, 2012	8.90%, or 7.65%, or 5.98%, or 4.85%, or 3.63%, depending on the individual election made by the member as provided in Section 1.229(6)
Library Management and Confidential	On or before July 1, 1977	3%
Employees	July 2, 1977 to January 1, 1988	4%
	January 2, 1988 to May 13, 1990	4.91%
	May 14, 1990 to December 31, 1996	4%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	
APAGR 61st District Court	Prior to January 1, 1990	4%
	January 1, 1990 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to July 7, 2012	4%
	On or after July 8, 2012	9.27%, or 8.02%, or 6.35%, or 5.22%, or 4.00%, depending on the individual election made by the member as provided in Section 1.229(8)

Member Classification	Period	Contribution Rate
Non-Represented Members of the 61st	January 1, 2005 to September	
District Court	4, 2010	4%
61 <sup>st</sup> District Court Judges	January 1, 2005 to January 8,	
	2011	4%
61 <sup>st</sup> District Court Judges	On or after January 9, 2011	10.20%, or 8.95% or 7.28%, depending on
		the individual election made by the member
		as provided in Section 1.229(2)
Association of Public Administrators of	Prior to December 31, 1994	4%
GR (APAGR)*		
	January 1, 1995 to December	
	31, 1996	3%
	January 1, 1997 to December	
	31, 2004	3.28%
	January 1, 2005 to June 11,	2.000
	2011	3.99%
	0 6 1 12 2011	0.260/ 0.010/ 6.240/ 1 1
	On or after June 12, 2011	9.26%, or 8.01% or 6.34%, depending on the
		individual election made by the member as
		provided in Section 1.229(3)
		6.15% for those APAGR members hired or
		re-entering service on or after June 12, 2011

<sup>\*</sup> No contribution after completing 39 years of service.

If a member terminates employment before any allowance is payable, accumulated contributions (contributions plus regular interest) are refunded.

*Employer Contributions*. The City contributes the remainder amounts necessary to maintain the Retirement System in sound financial condition in accordance with its funding objectives.

*Compensation*. Compensation recognized for Retirement System purposes includes base pay and longevity pay.

**Post-Retirement Increases.** Post-retirement benefit increases are 0% unless otherwise stated:

Member Classification	<b>Termination Date</b>	Escalator
GREIU and GREIU-61 <sup>st</sup> District Court	On or after March 24, 2009	1.0%, 4 year delay
Library Rank and File & Supervisory Employees	On or after July 9, 2009	1.0%, 4 year delay
Crime Scene Techs/Latent Print Examiners represented by the GRPOA	On or after May 12, 2009	1.0%, 6 year delay
Association of Public Administrators and APA 61 <sup>st</sup> District Court	On or after October 21, 2008	1.0%, 4 year delay
EC Supervisors	On or after September 13, 2011	1.0%, 6 year delay
Non-Represented Members	On or after July 1, 2014	1.0%, 7 year delay

13th Check. One-half of net investment income over 8% which is attributable to retired life assets is distributed annually (in January) to retired members and beneficiaries who have been on the retirement rolls for 5 years in the form of a 13th check. Net investment income is based on a market value rate of return averaged over the preceding 5 plan years. The distribution is in proportion to points. An individual's points are determined by multiplying (i) the number of full years of retirement, to a maximum of 15, by (ii) the number of years, and fractions thereof, of service at retirement. Only member classification groups not covered by the post-retirement increase participate in the 13<sup>th</sup> check program.



### **VALUATION METHODS**

Age and Service Benefits and Casualty Benefits. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics:

- (i) The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by (principal & interest combined) level dollar contributions over a period of 23 years. This is a change from the method used in previous valuations, which developed level percent of payroll contributions.

According to City Code Section 1.221, "The pension reserves so determined less the applicable balance in the employer accumulation fund shall be amortized over a period of years, as determined by the employer, to determine the employer's accrued service contribution."

### PROJECTION OF FUTURE AMORTIZATION PAYMENTS

	Projected	(Unfunded Accrued Liability)	
Fiscal	Payroll	Amortization Payment	UAL Amortization
Year	(\$ Millions)	(\$ Millions)	Payment %
2017	\$36.50	\$8.61	23.60%
2018	34.62	8.24	23.80%
2019	32.94	7.49	22.73%
2020	31.38	7.05	22.46%
2021	29.78	7.34	24.66%
2022	28.05	7.31	26.06%
2023	26.30	7.30	27.74%
2024	24.57	7.30	29.69%
2025	22.78	7.30	32.03%
2026	21.00	7.30	34.74%
2027	19.33	7.30	37.75%
2028	17.64	7.30	41.35%
2029	15.86	7.30	46.01%
2030	14.02	7.30	52.02%
2031	12.30	7.30	59.32%
2032	10.84	7.30	67.32%
2033	9.55	7.30	76.41%
2034	8.23	7.30	88.60%
2035	7.08	7.30	103.00%
2036	6.22	7.30	117.29%
2037	5.36	7.30	136.23%
2038	4.42	7.30	165.22%
2039	3.54	7.30	205.96%
2040	2.80	0.00	0.00%

The schedule above projects future amortization payments where all assumptions for future experience are exactly realized. Gains and losses from all risk areas will likely have a material effect on contributions in future years.

The Projected Payroll assumes the System will have no new active participants. The Amortization Payment % is shown as a percent of this projected payroll.

### ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION ADOPTED BY THE BOARD OF TRUSTEES

The actuary calculates the contribution requirements and benefit values of the System by applying financial assumptions to the benefit provisions and people information furnished, using the valuation methods described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- (i) Long-term rates of investment return to be generated by the assets of the System,
- (ii) patterns of pay increases to members,
- (iii) rates of mortality among members, retirants and beneficiaries,
- (iv) rates of withdrawal of active members (without entitlement to a retirement benefit),
- (v) rates of disability among members, and
- (vi) the age patterns of actual retirement.

In a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

The rationale for the assumptions used in this valuation is included in the 5-year experience study ending June 30, 2014, approved by the Board in November 2015. All assumptions are expectations of future experience, not market measures.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Salary Increase Assumptions For an Individual Member

		TOI	an muruuai wic	IIIDCI	
	Sample Ages	Merit & Seniority	Base (Economic)	Increase Next Year	
	11503	Бетионц	(Leonome)	TICAL TEUT	-
	20	4.2%	3.5%	7.7%	
	25	2.9	3.5	6.4	
	30	2.0	3.5	5.5	
	35	1.5	3.5	5.0	
	40	1.1	3.5	4.6	
	45	0.7	3.5	4.2	
	50	0.3	3.5	3.8	
	55	0.1	3.5	3.6	
	60	0.0	3.5	3.5	
	65		3.5	3.5	

Service at Beginning	Additional Service Based Merit/Seniority Portion of Annual Increases
of Year	Present
1	4.00%
2	3.00%
3	1.75%
4	1.75%
5	1.75%

If the number of active members remains constant, then the total active member payroll will increase 3.5% annually, the base portion of the individual salary increase assumptions. Increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities. The 3.5% assumption was first used for the June 30, 2006 valuation.

*The rate of investment return* was 7.25% a year compounded yearly and was first used for the June 30, 2015 valuation.

The mortality tables were the RP-2014 Healthy Annuitant Mortality Table projected to 2019 using the MP-2014 mortality improvement scale. (These tables were first used for the June 30, 2015 valuation and benefit computations starting July 1, 2016.) The RP-2014 Disabled Retirees Table projected to 2019 using the MP-2014 mortality improvement scale was used for disabled members.

Value at Re	tirement of	Future Life Expectancy (Years)		
\$1 Monthl	y for Life			
Men	Women	Men	Women	
\$146.94	\$151.22	33.25	35.95	
140.29	145.28	28.92	31.44	
132.17	137.63	24.73	27.02	
122.10	128.02	20.70	22.74	
109.89	116.29	16.85	18.67	
95.54	102.46	13.26	14.86	
79.46	86.81	10.01	11.41	
	\$1 Monthlem  \$146.94 140.29 132.17 122.10 109.89 95.54	\$146.94 \$151.22 140.29 145.28 132.17 137.63 122.10 128.02 109.89 116.29 95.54 102.46	\$1 Monthly for Life         Expectance           Men         Women         Men           \$146.94         \$151.22         33.25           140.29         145.28         28.92           132.17         137.63         24.73           122.10         128.02         20.70           109.89         116.29         16.85           95.54         102.46         13.26	

This assumption is used to measure the probabilities of each benefit payment being made after retirement. For purposes of the pre-retirement death benefit, the RP-2014 Mortality Tables for Employees projected to 2019 using the MP-2014 mortality improve scale were used and it was assumed that 100% of members were married at the time of death.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows. These rates were first used for the June 30, 2015 valuation.

A member is eligible for retirement after completing 30 or more years of service or after both attaining age 62 and completing 8 or more years of service. Prior to the above eligibility, members who are eligible for early reduced retirement are assumed to elect this option at a 3% rate per year until eligible for Normal Retirement.

#### **Normal Unreduced Retirement**

Retirement Ages	Percent Retiring	Retirement Ages	Percent Retiring
50	40%	60	40%
51	40	61	40
52	40	62	40
53	40	63	40
54	40	64	40
55	40	65	50
56	40	66	60
57	40	67	70
58	40	68	80
59	40	69	90
		70-79	100
		80	100

### Rates of separation from active membership were as follows:

(Rates do not apply to members eligible to retire and do not include separation on account of death or disability.) This assumption measures the probabilities of members remaining in employment. These rates were first used for the June 30, 2015 valuation.

	% of Active Members				
Years of	Separating wit	hin Next Year			
Service	Men	Women			
0	15.00%	15.00%			
1	8.00	8.00			
2	7.00	7.00			
3	6.00	6.00			
4	5.00	5.00			
5 & Over	3.53	7.94			
	3.44	7.72			
	3.29	7.22			
	3.05	6.28			
	2.72	5.15			
	2.30	3.98			
	1.61	2.56			
	0.61	0.94			
	0.06	0.09			
	0 1 2 3 4	Years of Service         Separating with Men           0         15.00%           1         8.00           2         7.00           3         6.00           4         5.00           5 & Over         3.53           3.44         3.29           3.05         2.72           2.30         1.61           0.61         0.61			

The rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year
20	0.01%
25	0.01
30	0.01
35	0.04
40	0.07
45	0.16
50	0.31
55	0.47
60	0.61

		Duty Related	Non-Duty Related	
Cause of Disability:	Men	30%	70%	
	Women	30%	70%	

### MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption: 100% of males and females are assumed to be married for

purposes of death-in-service benefits.

Pay Increase Timing: Beginning of (Fiscal) year. This is equivalent to assuming

that reported pays represent amounts paid to members during

the year ended on the valuation date.

**Decrement Timing:** Decrements of all types are assumed to occur in the middle of

the year.

Eligibility Testing: Eligibility for benefits is determined based upon the age

nearest birthday and service nearest whole year on the date

the decrement is assumed to occur.

Benefit Service: Exact fractional service is used to determine the amount of

benefit payable.

**Decrement Relativity:** Decrement rates are used directly from the experience study,

without adjustment for multiple decrement table effects.

**Decrement Operation:** Disability and mortality decrements do not operate during the

first 5 years of service. Disability and withdrawal do not

operate during retirement eligibility.

**Normal Form of Benefit:** The assumed normal form of benefit is the straight life form.

**Other Adjustments:** Actuarial accrued liabilities were adjusted as a provision for

subsidized service purchases, pending refunds, and other contingent events. Retirement present values were also adjusted for Crime Scene Technicians and ECO to reflect the

"gross up factor."

**Incidence of Contributions:** Contributions are assumed to be received continuously

throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant

benefits.

Multiplier Election: Most active members have the option to make higher member

contributions and receive a higher benefit multiplier. Individual elections are reported and reflected in the

valuation results.

13<sup>th</sup> Check Payments: Future liabilities of members in the 13<sup>th</sup> Check program were

increased by 5% to account for future payments.

Service Purchases: Liabilities were increased by \$5 million to load for service

purchases made to date.



### CALCULATION OF THE SINGLE DISCOUNT RATE

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

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.80%; and the resulting single discount rate is 7.25%.

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. 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 BEGINNING JULY 1, 2015

Payroll for Current		Contributions from Current	Service Cost and Expense	UAL	Total	
Year	Employees	Employees	Contributions	Contributions	Contributions	
0	\$ 38,492,586					
1	36,687,782	\$ 3,119,292	\$ 2,869,654	\$ 7,360,577	\$ 13,349,523	
2	34,765,374	2,955,506	2,673,952	7,360,577	12,990,036	
3	33,033,111	2,794,576	2,502,363	7,360,577	12,657,516	
4	31,502,919	2,652,366	2,355,387	7,360,577	12,368,331	
5	29,986,111	2,521,483	2,215,064	7,360,577	12,097,124	
6	28,355,634	2,385,038	2,071,472	7,360,577	11,817,087	
7	26,592,376	2,237,463	1,924,273	7,360,577	11,522,313	
8	24,932,632	2,090,726	1,781,953	7,360,577	11,233,257	
9	23,210,278	1,946,257	1,641,608	7,360,577	10,948,443	
10	21,422,176	1,797,648	1,497,740	7,360,577	10,655,966	
11	19,729,215	1,651,894	1,358,800	7,360,577	10,371,271	
12	18,145,450	1,513,005	1,230,482	7,360,577	10,104,065	
13	16,421,798	1,372,004	1,104,812	7,360,577	9,837,393	
14	14,636,658	1,223,286	975,520	7,360,577	9,559,383	
15	12,828,047	1,072,362	849,154	7,360,577	9,282,094	
16	11,259,255	929,950	734,901	7,360,577	9,025,428	
17	9,971,685	811,311	640,121	7,360,577	8,812,009	
18	8,730,861	709,935	558,245	7,360,577	8,628,757	
19	7,389,110	606,871	476,657	7,360,577	8,444,105	
20	6,486,759	516,111	404,715	7,360,577	8,281,403	
21	5,699,800	449,486	351,232	7,360,577	8,161,296	
22	4,784,358	386,167	299,443	7,360,577	8,046,188	
23	3,855,075	318,444	244,306	7,360,577	7,923,327	
24	3,074,610	254,284	193,275	7,360,577	7,808,137	
25	2,405,236	200,245	150,053	-,500,577	350,298	
26	1,636,194	146,858	109,238	_	256,096	
27	1,130,000	98,954	74,090	_	173,044	
28	784,119	67,403	50,806	_	118,209	
29	465,464	43,729	32,965	_	76,694	
30	271,608	25,817	19,359	_	45,176	
31	154,907	14,957	11,202	_	26,159	
32	87,624	8,506	6,324		14,830	
33	48,130	4,755	3,572	_	8,327	
34	25,865	2,586	1,938	-	4,524	
35	13,570	1,378	1,046	_	2,424	
36	7,172	728	531	_	1,259	
37	3,748	387	290	-	677	
38	1,792	198	142	-	340	
39	772	91	61	-	152	
				-		
40	313	38	24	-	62	
41	116	14	9	-	23	
42	40	5	3	-	8	
43	11	2	1	-	3	
44	2	0	1	-	1	
45	0	0	-	-	0	
46	-	0	-	-	0	
47	-	-	-	-	-	
48	-	-	-	-	-	
49	-	-	-	-	-	
50	-	-	-	-	-	

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING JULY 1, 2015

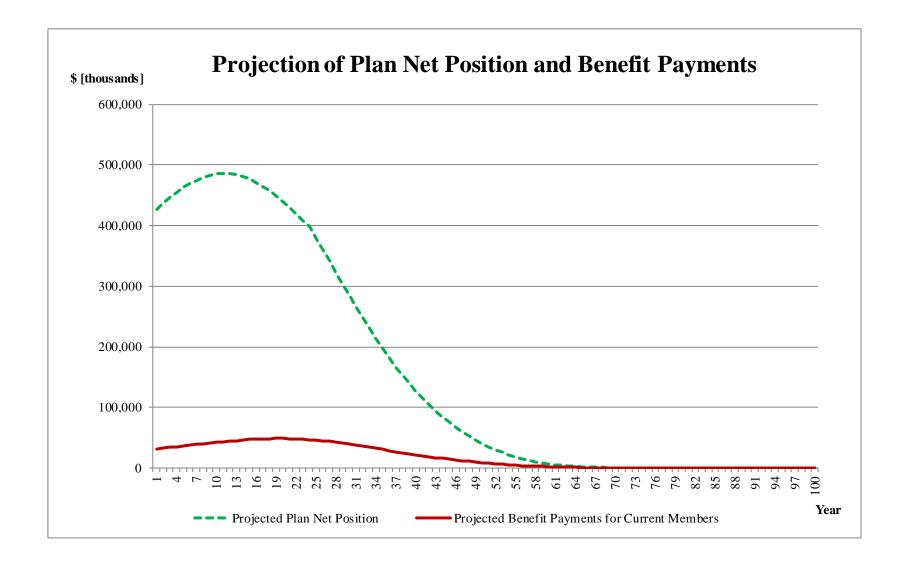
Year	Projected Beginning Plan Net Position	Projected Total Contributions	]	rojected Benefit ayments	Projected Administrative Expenses	Projected Investment Earnings at 7.25%	Projected Ending Plan Net Position
	(a)	(b)		(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 414,664,005	\$ 13,349,523	\$	31,427,459	\$ 539,063	\$ 29,958,344	\$ 426,005,349
2	426,005,349	12,990,036		32,762,584	553,807	30,734,980	436,413,975
3	436,413,975	12,657,516		34,145,365	567,338	31,442,045	445,800,834
4	445,800,834	12,368,331		35,396,565	579,541	32,079,933	454,272,991
5	454,272,991	12,097,124		36,441,413	590,555	32,658,306	461,996,455
6	461,996,455	11,817,087		37,525,559	600,595	33,179,712	468,867,099
7	468,867,099	11,522,313		38,807,562	609,527	33,630,607	474,602,931
8	474,602,931	11,233,257		39,986,150	616,984	34,001,640	479,234,694
9	479,234,694	10,948,443		41,131,647	623,005	34,292,523	482,721,007
10	482,721,007	10,655,966		42,259,579	627,537	34,499,224	484,989,080
11	484,989,080	10,371,271		43,472,121	630,486	34,613,282	485,871,026
12	485,871,026	10,104,065		44,378,162	631,632	34,636,584	485,601,880
13	485,601,880	9,837,393		45,257,466	631,282	34,575,906	484,126,431
14	484,126,431	9,559,383		46,143,402	629,364	34,425,563	481,338,611
15	481,338,611	9,282,094		47,044,209	625,740	34,177,863	477,128,618
16	477,128,618	9,025,428		47,789,522	620,267	33,831,479	471,575,737
17	471,575,737	8,812,009		48,252,395	613,048	33,397,590	464,919,893
18	464,919,893	8,628,757		48,556,829	604,396	32,889,020	457,276,445
19	457,276,445	8,444,105		48,747,349	594,459	32,311,571	448,690,313
20	448,690,313	8,281,403		48,703,326	583,297	31,673,688	439,358,781
21	439,358,781	8,161,296		48,346,306	571,166	30,993,458	429,596,062
22	429,596,062	8,046,188		47,873,428	558,475	30,285,712	419,496,058
23	419,496,058	7,923,327		47,389,117	545,345	29,553,205	409,038,129
23	409,038,129	7,808,137		46,745,624	531,750	28,800,226	398,369,118
25	398,369,118	350,298		45,934,240	517,880	27,776,134	380,043,431
26	380,043,431	256,096		45,002,533	494,056	26,453,527	
27	361,256,464	173,044		43,931,342	469,633	25,102,242	361,256,464 342,130,775
28 29	342,130,775 322,897,315	118,209 76,694		42,641,645	444,770 419,767	23,734,747 22,365,397	322,897,315
30				41,194,020			303,725,619
31	303,725,619	45,176		39,680,515	394,843	21,003,308	284,698,745
	284,698,745	26,159		37,994,088	370,108	19,658,511	266,019,219
32	266,019,219	14,830		36,200,797	345,825	18,343,428	247,830,855
33	247,830,855	8,327		34,358,643	322,180	17,066,505	230,224,864
34	230,224,864	4,524		32,502,490	299,292	15,833,155	213,260,760
35	213,260,760	2,424		30,663,842	277,239	14,646,614	196,968,718
36	196,968,718	1,259		28,825,246	256,059	13,509,703	181,398,375
37	181,398,375	677		27,002,047	235,818	12,425,526	166,586,712
38	166,586,712	340		25,223,852	216,563	11,395,745	152,542,381
39	152,542,381	152		23,498,201	198,305	10,420,727	139,266,754
40	139,266,754	62		21,830,194	181,047	9,500,390	126,755,965
41	126,755,965	23		20,226,525	164,783	8,634,208	114,998,889
42	114,998,889	8		18,690,462	149,499	7,821,243	103,980,180
43	103,980,180	3		17,223,696	135,174	7,060,302	93,681,615
44	93,681,615	1		15,825,419	121,786	6,350,069	84,084,481
45	84,084,481	0		14,493,431	109,310	5,689,240	75,170,980
46	75,170,980	0		13,234,768	97,722	5,076,252	66,914,742
47	66,914,742	-		12,043,320	86,989	4,509,376	59,293,808
48	59,293,808	-		10,917,730	77,082	3,987,040	52,286,036
49	52,286,036	-		9,856,762	67,972	3,507,653	45,868,956
50	45,868,956	-		8,859,374	59,630	3,069,596	40,019,548

### SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFIT PAYMENTS BEGINNING JULY 1, 2015 (YEARS 1-50)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	(h)=((c)/(1+sdr)^(a5)
1	\$ 414,664,005	\$ 31,427,459	\$ 31,427,459	\$ -	\$ 30,346,641	\$ -	\$ 30,346,641
2	426,005,349	32,762,584	32,762,584	-	29,497,295	-	29,497,295
3	436,413,975	34,145,365	34,145,365	-	28,664,113	-	28,664,113
4	445,800,834	35,396,565	35,396,565	-	27,705,792	-	27,705,792
5	454,272,991	36,441,413	36,441,413	-	26,595,450	-	26,595,450
6	461,996,455	37,525,559	37,525,559	-	25,535,362	-	25,535,362
7	468,867,099	38,807,562	38,807,562	-	24,622,600	-	24,622,600
8	474,602,931	39,986,150	39,986,150	-	23,655,375	-	23,655,375
9	479,234,694	41,131,647	41,131,647	-	22,688,148	-	22,688,148
10	482,721,007	42,259,579	42,259,579	-	21,734,558	-	21,734,558
11	484,989,080	43,472,121	43,472,121	-	20,846,789	-	20,846,789
12	485,871,026	44,378,162	44,378,162	-	19,842,681	-	19,842,681
13	485,601,880	45,257,466	45,257,466	-	18,867,918	-	18,867,918
14	484,126,431	46,143,402	46,143,402	-	17,936,845	-	17,936,845
15	481,338,611	47,044,209	47,044,209	-	17,050,822	-	17,050,822
16	477,128,618	47,789,522	47,789,522	-	16,150,074	-	16,150,074
17	471,575,737	48,252,395	48,252,395	-	15,204,194	-	15,204,194
18	464,919,893	48,556,829	48,556,829	-	14,265,847	-	14,265,847
19	457,276,445	48,747,349	48,747,349	-	13,353,679	-	13,353,679
20	448,690,313	48,703,326	48,703,326	-	12,439,739	-	12,439,739
21	439,358,781	48,346,306	48,346,306	-	11,513,799	-	11,513,799
22	429,596,062	47,873,428	47,873,428	-	10,630,472	-	10,630,472
23	419,496,058	47,389,117	47,389,117	-	9,811,589	-	9,811,589
24	409,038,129	46,745,624	46,745,624	-	9,024,110	-	9,024,110
25	398,369,118	45,934,240	45,934,240	-	8,268,042	-	8,268,042
26	380,043,431	45,002,533	45,002,533	-	7,552,762	-	7,552,762
27	361,256,464	43,931,342	43,931,342	-	6,874,577	-	6,874,577
28	342,130,775	42,641,645	42,641,645	-	6,221,687	-	6,221,687
29	322,897,315	41,194,020	41,194,020	-	5,604,167	-	5,604,167
30	303,725,619	39,680,515	39,680,515	-	5,033,348	-	5,033,348
31	284,698,745	37,994,088	37,994,088	-	4,493,641	-	4,493,641
32	266,019,219	36,200,797	36,200,797	-	3,992,116	-	3,992,116
33	247,830,855	34,358,643	34,358,643	-	3,532,838	-	3,532,838
34	230,224,864	32,502,490	32,502,490	-	3,116,069	-	3,116,069
35	213,260,760	30,663,842	30,663,842	-	2,741,067	-	2,741,067
36	196,968,718	28,825,246	28,825,246	-	2,402,530	-	2,402,530
37 38	181,398,375	27,002,047	27,002,047	-	2,098,434	-	2,098,434
	166,586,712	25,223,852	25,223,852	-	1,827,732	-	1,827,732
39 40	152,542,381	23,498,201 21,830,194	23,498,201 21,830,194	-	1,587,591	-	1,587,591 1,375,195
40	139,266,754			-	1,375,195	-	
41	126,755,965	20,226,525	20,226,525	-	1,188,039	-	1,188,039
42	114,998,889 103,980,180	18,690,462 17,223,696	18,690,462	-	1,023,604	-	1,023,604
43 44			17,223,696	-	879,511 753,482	-	879,511 753,482
44 45	93,681,615	15,825,419	15,825,419	-	753,482 643,415	-	753,482 643,415
45 46	84,084,481 75,170,980	14,493,431 13,234,768	14,493,431 13,234,768	-	643,415 547,822	-	547,822
46 47	66,914,742	12,043,320	12,043,320	-	464,806	-	347,822 464,806
48	59,293,808	10,917,730	10,917,730	-	392,881	-	392,881
48 49	52,286,036	9,856,762	9,856,762	-	330,724	-	330,724
50	45,868,956	9,836,762 8,859,374	9,836,762 8,859,374	-	277,164	-	277,164
30	45,000,950	0,037,374	0,037,374	-	277,104	-	277,104

# SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFIT PAYMENTS BEGINNING JULY 1, 2015 (YEARS 51-100) (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	(h)=((c)/(1+sdr)^(a5)
51	\$ 40,019,548	\$ 7,924,692	\$ 7,924,692	\$ -	\$ 231,163	\$ -	\$ 231,163
52	34,714,029	7,051,932	7,051,932	-	191,799	-	191,799
53	29,927,705	6,240,308	6,240,308	-	158,251	-	158,251
54	25,634,902	5,489,001	5,489,001	-	129,789	-	129,789
55	21,808,937	4,797,168	4,797,168	-	105,763	-	105,763
56	18,422,061	4,163,868	4,163,868	-	85,595	-	85,595
57	15,445,494	3,587,965	3,587,965	-	68,770	-	68,770
58	12,849,540	3,068,061	3,068,061	-	54,830	-	54,830
59	10,603,799	2,602,421	2,602,421	-	43,365	-	43,365
60	8,677,466	2,188,919	2,188,919	-	34,009	-	34,009
61	7,039,703	1,825,001	1,825,001	-	26,438	-	26,438
62	5,660,082	1,507,694	1,507,694	-	20,365	-	20,365
63	4,509,047	1,233,680	1,233,680	-	15,537	-	15,537
64	3,558,334	999,420	999,420	-	11,736	-	11,736
65	2,781,299	801,264	801,264	-	8,773	-	8,773
66	2,153,141	635,537	635,537	-	6,488	-	6,488
67	1,651,072	498,576	498,576	-	4,746	-	4,746
68	1,254,441	386,795	386,795	-	3,433	-	3,433
69	944,817	296,747	296,747	-	2,456	-	2,456
70	706,001	225,180	225,180	-	1,737	-	1,737
71	523,986	169,096	169,096	-	1,217	-	1,217
72	386,856	125,774	125,774	-	844	-	844
73	284,649	92,795	92,795	-	580	-	580
74	209,187	68,048	68,048	-	397	-	397
75	153,881	49,730	49,730	-	270	-	270
76	113,536	36,335	36,335	-	184	-	184
77	84,139	26,630	26,630	-	126	-	126
78	62,660	19,640	19,640	-	87	-	87
79	46,864	14,606	14,606	-	60	-	60
80	35,135	10,959	10,959	-	42	-	42
81	26,333	8,286	8,286	-	30	-	30
82	19,660	6,293	6,293	-	21	-	21
83	14,568	4,779	4,779	-	15	-	15
84	10,675	3,610	3,610	-	10	-	10
85	7,710	2,700	2,700	-	7	-	7
86	5,473	1,989	1,989	-	5	-	5
87	3,810	1,437	1,437	-	3	-	3
88	2,598	1,016	1,016	-	2	-	2
89	1,735	700	700	-	1	-	1
90	1,136	469	469	-	1	-	1
91	732	306	306	-	1	-	1
92	469	193	193	-	0	-	0
93	303	118	118	-	0	-	0
94	203	70	70	-	0	-	0
95	145	40	40	-	0	-	0
96	114	22	22	-	0	-	0
97	99	12	12	-	0	-	0
98	94	6	6	-	0	-	0
99	94	3	3	-	0	-	0
100	98	2	2	-	0		0
				Totals	\$ 542,416,078	\$ -	\$ 542,416,078





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 payments at predetermined rates of interest and 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.

**Actuarial Valuation Date** 

The date as of which an actuarial valuation is performed.

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC) 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.

**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 and does not include pay above any pay cap.

Deferred Retirement Option Program (DROP) 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.

Deferred Inflows and Outflows

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

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 (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 age(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.

**GASB** 

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for 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 statement 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 postemployment 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.

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 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

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 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.



December 7, 2015

Ms. Peggy Korzen Executive Director City of Grand Rapids General Retirement System 233 East Fulton, Suite 216 Grand Rapids, Michigan 49503

Dear Peggy:

Please find enclosed 15 copies of the GASB Statement No. 67 Plan Reporting and Accounting Schedules report of the City of Grand Rapids General Retirement System.

We will be happy to meet with the Board to discuss the results of this report.

Sincerely,

DLH:ah

cc: Ms. Pam Slagh, BDO (one report copy)