

**CITY OF GRAND RAPIDS GENERAL RETIREMENT SYSTEM**  
**GASB STATEMENT NO. 67 PLAN REPORTING AND**  
**ACCOUNTING SCHEDULES**  
**JUNE 30, 2013**

July 25, 2014

The 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 No. 67. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB 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 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 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 opinion contained herein.

Respectfully submitted,



James D. Anderson, FSA, MAAA



David L. Hoffman

JDA\DLH:bd

Auditor's Note – This information is presented in draft form for review by the Plan'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.

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**SECTION A**  
EXECUTIVE SUMMARY

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## Executive Summary as of June 30, 2013

Actuarial Valuation Date	June 30, 2013
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	June 30, 2013
<b>Membership</b>	
Number of	
- Retirees and Beneficiaries	1,091
- Inactive, Nonretired Members	83
- Active Members	786
- Total	1,960
Covered Payroll	\$ 43,783,450
<b>Net Pension Liability</b>	
Total Pension Liability	\$ 455,914,323
Plan Fiduciary Net Position	379,712,035
Net Pension Liability	\$ 76,202,288
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	83.29%
Net Pension Liability as a Percentage of Covered Payroll	174.04%
<b>Development of the Single Discount Rate</b>	
Single Discount Rate	7.50%
Long-Term Expected Rate of Return	7.50%
Long-Term Municipal Bond Rate	4.63%
Year when the Plan Fiduciary Net Position is Projected to no Longer be Sufficient to Make Projected Benefit Payments	2105

## 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 Statement No. 25, “Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and Statement No. 50, “Pension Disclosures.” 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

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

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

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).

**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, 2013 and a measurement date of June 30, 2013.

**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 7.50%; the municipal bond rate is 4.630% (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 7.50%.

**Effective Date and Transition**

GASB Statement No. 67 is effective for a pension plan's fiscal years beginning after June 15, 2013; however, earlier application is encouraged by the GASB.

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## **SECTION B**

### FINANCIAL STATEMENTS

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## Statement of Fiduciary Net Position as of June 30, 2013

**Assets**

Cash and Deposits	\$	4,248,397
Receivables		
Accounts Receivable - Sale of Investments	\$	-
Accrued Interest and Other Dividends		496,950
Contributions		690,133
Accounts Receivable - Other		-
Total Receivables	<u>\$</u>	<u>1,187,083</u>
Investments		
Fixed Income	\$	103,116,258
Domestic Equities		177,804,444
International Equities		56,649,989
Real Estate		19,035,348
Other		18,074,212
Total Investments	<u>\$</u>	<u>374,680,251</u>
<b>Total Assets</b>	<u>\$</u>	<u>380,115,731</u>

**Liabilities**

Payables		
Accounts Payable - Purchase of Investments	\$	69,031
Accrued Expenses		334,665
Accounts Payable - Other		-
<b>Total Liabilities</b>	<u>\$</u>	<u>403,696</u>

<b>Net Position Restricted for Pensions</b>		<u><u>\$ 379,712,035</u></u>
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## Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2013

### Additions

Contributions	
Employer	\$ 8,135,843
Member	3,933,341
Other	-
Total Contributions	\$ 12,069,184
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 45,018,173
Interest and Dividends	-
Less Investment Expense	-
Net Investment Income	\$ 45,018,173
Other	\$ -
<b>Total Additions</b>	<b>\$ 57,087,357</b>

### Deductions

Benefit Payments and Refunds	\$ 27,152,432
Pension Plan Administrative Expense	1,451,287
Other	-
<b>Total Deductions</b>	<b>\$ 28,603,719</b>
<b>Net Increase in Net Position</b>	<b>\$ 28,483,638</b>

### Net Position Restricted for Pensions

Beginning of Year	\$ 351,228,397
End of Year	\$ 379,712,035

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**SECTION C**

REQUIRED SUPPLEMENTARY INFORMATION

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**Schedules of Required Supplementary Information**  
**Schedule of Changes in the Employers' Net Pension Liability**  
**and Related Ratios**

**Ultimately 10 Fiscal Years will be Displayed**

Fiscal year ending June 30,	<u>2013</u>
<b>Total Pension Liability</b>	
Service Cost	\$ 3,621,485
Interest on the Total Pension Liability	32,782,407
Benefit Changes	-
Difference between Expected and Actual Experience of the Total Pension Liability	(2,201,374)
Assumption Changes	-
Benefit Payments	(27,037,516)
Refunds	(114,916)
<b>Net Change in Total Pension Liability</b>	<u>7,050,086</u>
<b>Total Pension Liability - Beginning</b>	<u>\$ 448,864,237</u>
<b>Total Pension Liability - Ending (a)</b>	<u><b>\$ 455,914,323</b></u>
<b>Plan Fiduciary Net Position</b>	
Contributions - Employer	\$ 8,135,843
Contributions - Member	3,933,341
Pension Plan Net Investment Income	44,058,818
Benefit Payments	(27,037,516)
Refunds	(114,916)
Pension Plan Administrative Expense	(476,059)
Other	(15,873)
<b>Net Change in Plan Fiduciary Net Position</b>	<u>28,483,638</u>
<b>Plan Fiduciary Net Position - Beginning</b>	<u>351,228,397</u>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u><b>\$ 379,712,035</b></u>
<b>Net Pension Liability - Ending (a) - (b)</b>	<u><b>\$ 76,202,288</b></u>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	83.29 %
<b>Covered Employee Payroll</b>	\$ 43,783,450
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	174.04 %
<b>Notes to Schedule:</b>	
N/A	

**Schedules of Required Supplementary Information**  
**Schedule of the Employers' Net Pension Liability**  
**Ultimately 10 Fiscal Years will be Displayed**

<b>FY Ending June 30,</b>	<b>Total Pension Liability</b>	<b>Plan Net Position</b>	<b>Net Pension Liability</b>	<b>Plan Net Position as a % of Total Pension Liability</b>	<b>Covered Payroll</b>	<b>Net Pension Liability as a % of Covered Payroll</b>
2013	\$ 455,914,323	\$ 379,712,035	\$76,202,288	83.29%	\$43,783,450	174.04%

**Schedule of Contributions**  
**Ultimately 10 Fiscal Years will be Displayed**

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Actual Contribution as a % of Covered Payroll</b>
2013	\$ 8,135,843	\$ 8,135,843	\$ -	\$ 43,783,450	18.58%

## Notes to Schedule of Contributions

### Valuation Date:

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	25 years
Asset Valuation Method	5-Year Smoothed Market
Inflation	3.5% -- approximate; No explicit price inflation assumption is used in this valuation.
Salary Increases	3.5% to 8.5% including inflation
Investment Rate of Return	7.38% (7.50% for groups receiving annual postretirement increases, 7.25% for groups participating in the 13th check program.)
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2010 valuation pursuant to an experience study of the period 2004 - 2009.
Mortality	1983 Group Annuity Male and Female Mortality Tables set back 3 years for males and 2 years for females.

### Other Information:

Notes There were no benefit changes during the year.

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**SECTION D**

NOTES TO FINANCIAL STATEMENTS

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### 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.

Asset Class	Asset Allocation January 1, 2012			Asset Allocation January 1, 2013			Asset Allocation January 1, 2014		
	Return	Risk	Allocation	Return	Risk	Allocation	Return	Risk	Allocation
US Equity	7.50	17.00	45.0	7.75	17.00	40.0	7.25	17.00	40.0
Non-US Equity	7.80	18.50	15.0	8.00	18.80	15.0	7.45	18.80	15.0
Fixed Income	2.85	5.00	30.0	3.25	5.00	30.0	4.10	5.00	30.0
Real Estate	5.25	12.25	5.0	5.50	12.35	5.0	5.40	12.35	5.0
Private Equity	10.25	27.50	5.0	10.75	27.50	5.0	10.40	27.50	5.0
Commodities	4.00	13.00	--	4.55	13.00	5.0	4.25	13.00	5.0
Cash	1.50	1.25	--	1.55	1.25	--	1.55	1.25	--
<b>Expected Return</b>	6.6			6.8			6.7		
<b>Standard Deviation, Risk</b>	12.0			11.3			11.3		

**Single Discount Rate**

A single discount rate of 7.50% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.50%. 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 7.50%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

**Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption**

<b>1% Decrease 6.50%</b>	<b>Current Single Discount Rate Assumption 7.50%</b>	<b>1% Increase 8.50%</b>
\$128,480,346	\$76,202,288	\$32,071,070

**Summary of Population Statistics**

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,091
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	83
Active Plan Members	<u>786</u>
Total Plan Members	1,960

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## **SECTION E**

### SUMMARY OF BENEFITS

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## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

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***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.

## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

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 – March 31, 2012	2.7%	
ECO's I, II and III	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 on or after May 7, 2002
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 re-entering service on or after June 12, 2011	97.5% for employees hired prior to January 1, 2005  94.5% for employees hired on or after January 1, 2005

## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

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%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired on or after January 1, 2005 – September 12, 2011
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	
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%

## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

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 or after January 1, 2005
Library Management and Confidential Employees	January 1, 2005 – September 4, 2010	2.7%	
EC Supervisors	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 hired on or after September 13, 2011 do not participate in the Retirement System	90% applicable for all employees entering this unit after July 1, 2004
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)  Bargaining unit members hired on or after May 25, 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 – May 24, 2011

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
(JUNE 30, 2013)**

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)  Bargaining unit members hired on or after September 2, 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 – September 1, 2011
GREIU - 61st District Court	January 1, 2005 – July 7, 2012	2.7%	97.5% for employees hired prior to January 1, 2005
GREIU - 61st District Court	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)  Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System	94.5% for employees hired from January 1, 2005 – September 12, 2011

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## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

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**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.

## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013)

**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 in Section 1.192(18.1), excluding secretarial or clerical members designated as management non-union for payroll purposes, and excluding the Executive Administrative Assistant at the Grand Rapids Public Library	On or before July 1, 1977	3%
	July 2, 1977 to December 31, 1994	4%
	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

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
(JUNE 30, 2013) CONTINUED**

Member Classification	Period	Contribution Rate
Non-Represented Members, as defined in Section 1.192(18.1), including only secretarial or clerical members designated as management non-union for payroll purposes, and including the Executive Administrative Assistant at the Grand Rapids Public Library	On or before July 1, 1977	3%
	July 2, 1977 to December 31, 1994	4%
	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)
	On or after July 24, 2011	6.15% for those non-represented members hired or re-entering service from September 5, 2010 through June 30, 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 I, II and III represented by GRPOLC	On or before July 1, 1977	3%
	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)

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
(JUNE 30, 2013) CONTINUED**

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 Examiners represented by the GRPOA	On or before July 1, 1977	3%
	July 2, 1977 to July 1, 1989	4%
	July 2, 1989 to July 1, 1990	3%
	July 2, 1990 to July 7, 2012	2%
	On or after July 8, 2012	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)
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)

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
(JUNE 30, 2013) CONTINUED**

Member Classification	Period	Contribution Rate
GREIU – Public Library Rank & File and Supervisory Bargaining Units	On or before July 1, 1977	3%
	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 Employees	On or before July 1, 1977	3%
	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	4.93%
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)

**SUMMARY OF BENEFIT PROVISIONS EVALUATED  
(JUNE 30, 2013) CONTINUED**

<b>Member Classification</b>	<b>Period</b>	<b>Contribution Rate</b>
Non-Represented Members of the 61 <sup>st</sup> District Court	January 1, 2005 to September 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 GR (APAGR)*	Prior to December 31, 1994	4%
	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to June 11, 2011	3.99%
	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

*\*[No contribution after completing 39 years of service.]*

## SUMMARY OF BENEFIT PROVISIONS EVALUATED (JUNE 30, 2013) CONCLUDED

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	Termination Date	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

**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 book 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.

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**SECTION F**

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

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## Valuation Methods

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***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 25 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

Fiscal Year	Projected Payroll	Amortization Payment	Amortization Payment %
	(\$ Millions)		
2015	\$ 43.49	\$ 8.88	20.41%
2016	42.36	7.62	18.00%
2017	40.82	6.74	16.51%
2018	39.15	6.71	17.14%
2019	37.56	6.31	16.79%
2020	36.03	6.23	17.30%
2021	34.51	6.19	17.94%
2022	32.90	6.19	18.82%
2023	31.25	6.19	19.81%
2024	29.60	6.19	20.92%
2025	27.80	6.19	22.28%
2026	25.92	6.19	23.89%
2027	24.14	6.19	25.65%
2028	22.38	6.19	27.68%
2029	20.49	6.19	30.22%
2030	18.49	6.19	33.49%
2031	16.54	6.19	37.44%
2032	14.82	6.19	41.79%
2033	13.26	6.19	46.71%
2034	11.68	6.19	53.01%
2035	10.26	6.19	60.38%
2036	9.09	6.19	68.13%
2037	7.90	6.19	78.41%
2038	6.61	6.19	93.74%
2039	5.38	6.19	115.15%
2040	4.27	-	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.

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

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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.

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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 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.

<b>Salary Increase Assumptions For an Individual Member</b>			
<b>Sample Ages</b>	<b>Merit &amp; Seniority</b>	<b>Base (Economic)</b>	<b>Increase Next Year</b>
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

<b>Service at Beginning of Year</b>	<b>Additional Service Based Merit/Seniority Portion of Annual Increases</b>
	<b>Present</b>
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 7.50% a year compounded yearly (net after expenses and before adjustment for the 13<sup>th</sup> check program). This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time. The 7.50% assumption was first used for the June 30, 2010 valuation.

*The mortality tables* were the 1983 Group Annuity Male and Female Mortality Tables setback 3 years for males and 2 years for females. (These tables were first used for the June 30, 2006 valuation and benefit computations.) Based on experience observed in our June 30, 2009 study, the current tables provide for margins of about 13% and 10% for males and females respectively. These rates for are set forward 8 years for males and 7 years for females for disabilities.

Sample Ages	Value at Retirement of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	\$142.39	\$149.52	31.90	36.81
55	135.01	143.78	27.42	32.10
60	125.92	136.25	23.13	27.48
65	114.57	126.63	19.02	23.02
70	101.23	114.62	15.23	18.76
75	87.08	100.30	11.92	14.81
80	72.40	85.10	9.08	11.40

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. For purposes of the pre-retirement death benefit, it was assumed that 100% of members were married at the time of death and the probability of death-in-service at any age, that results in a benefit payment, is one half that of the mortality assumption for retirees.

*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, 2010 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.

Retirement Ages	Percent Retiring	Retirement Ages	Percent Retiring
50	35%	60	35%
51	35	61	35
52	35	62	35
53	35	63	35
54	35	64	35
55	35	65	50
56	35	66	60
57	35	67	70
58	35	68	80
59	35	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, 2010 valuation.

Sample Ages	Years of Service	% of Active Members Separating Within Next Year	
		Men	Women
ALL	0	10.00%	10.00%
	1	7.00	7.00
	2	6.00	6.00
	3	5.00	5.00
	4	5.00	5.00
20	5 & Over	2.99	5.95
25		2.91	5.79
30		2.79	5.42
35		2.58	4.71
40		2.30	3.86
45		1.95	2.98
50		1.36	1.92
55	0.52	0.70	
60	0.05	0.07	

**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:	Male	30%	70%
	Female	30%	70%

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**SUMMARY OF ASSUMPTIONS USED**  
**JUNE 30, 2013**  
**MISCELLANEOUS AND TECHNICAL ASSUMPTIONS**

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<b>Marriage Assumption:</b>	100% of males and females are assumed to be married for purposes of death-in-service benefits.
<b>Pay Increase Timing:</b>	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.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur in the middle of the year.
<b>Eligibility Testing:</b>	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.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
<b>Normal Form of Benefit:</b>	The assumed normal form of benefit is the straight life form.
<b>Other Adjustments:</b>	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.”
<b>Incidence of Contributions:</b>	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.
<b>Multiplier Election:</b>	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.

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## **SECTION G**

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

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## 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 7.50%; the municipal bond rate is 4.63%; and the resulting single discount rate is 7.50%.

The tables in this section provide background for the development of the single discount rate.

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

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

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

## Single Discount Rate Development

### Projection of Contributions Beginning July 1, 2013

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Total Contributions
0	\$43,783,450				
1	42,988,896	\$ 3,581,574	\$ 3,186,467	\$ 6,593,377	\$ 13,361,417
2	42,125,013	3,508,039	3,081,560	6,593,377	13,182,976
3	40,809,067	3,409,361	2,972,018	6,593,377	12,974,756
4	39,135,094	3,276,468	2,831,479	6,593,377	12,701,324
5	37,552,298	3,132,784	2,685,753	6,593,377	12,411,914
6	36,032,860	2,998,440	2,550,367	6,593,377	12,142,184
7	34,572,400	2,872,065	2,415,917	6,593,377	11,881,359
8	33,065,947	2,744,132	2,282,049	6,593,377	11,619,557
9	31,401,420	2,606,132	2,148,220	6,593,377	11,347,729
10	29,853,354	2,467,606	2,018,023	6,593,377	11,079,006
11	28,168,370	2,328,986	1,888,806	6,593,377	10,811,169
12	26,309,199	2,178,874	1,749,810	6,593,377	10,522,061
13	24,497,560	2,023,881	1,609,991	6,593,377	10,227,249
14	22,814,594	1,873,604	1,479,277	6,593,377	9,946,258
15	21,038,753	1,724,242	1,351,303	6,593,377	9,668,921
16	19,108,873	1,565,941	1,218,763	6,593,377	9,378,081
17	17,115,621	1,399,747	1,085,153	6,593,377	9,078,277
18	15,293,183	1,238,055	959,503	6,593,377	8,790,935
19	13,741,655	1,098,839	849,939	6,593,377	8,542,155
20	12,236,967	977,334	753,500	6,593,377	8,324,211
21	10,642,428	854,112	659,109	6,593,377	8,106,598
22	9,453,355	742,795	573,582	6,593,377	7,909,754
23	8,357,804	653,808	504,143	6,593,377	7,751,328
24	7,107,396	566,365	434,979	6,593,377	7,594,721
25	5,821,621	473,446	360,827	6,593,377	7,427,650
26	4,701,890	384,413	290,837	-	675,250
27	3,655,553	305,923	228,658	-	534,581
28	2,452,155	224,790	165,976	-	390,766
29	1,615,262	149,352	109,917	-	259,269
30	1,020,869	97,013	70,991	-	168,004
31	623,693	61,013	44,058	-	105,071
32	372,192	37,338	26,523	-	63,861
33	212,874	22,193	15,649	-	37,842
34	120,513	12,763	8,944	-	21,707
35	67,046	7,222	5,099	-	12,321
36	36,886	4,018	2,838	-	6,856
37	19,310	2,196	1,547	-	3,743
38	10,090	1,181	832	-	2,013
39	5,076	633	415	-	1,048
40	2,177	315	204	-	519
41	776	132	88	-	220
42	211	45	22	-	67
43	38	11	1	-	12
44	3	2	1	-	3
45	-	0	-	-	0
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-
49	-	-	-	-	-
50	-	-	-	-	-

## Single Discount Rate Development

### Projection of Plan Fiduciary Net Position Beginning July 1, 2013

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 379,712,035	\$ 13,361,417	\$ 29,009,499	\$ 607,539	\$ 28,509,747	\$ 391,966,161
2	391,966,161	13,182,976	29,751,516	627,146	29,414,520	404,184,995
3	404,184,995	12,974,756	30,712,012	646,696	30,307,448	416,108,491
4	416,108,491	12,701,324	31,904,955	665,774	31,166,793	427,405,880
5	427,405,880	12,411,914	33,241,548	683,849	31,972,300	437,864,697
6	437,864,697	12,142,184	34,542,835	700,584	32,715,597	447,479,060
7	447,479,060	11,881,359	35,652,995	715,966	33,401,575	456,393,032
8	456,393,032	11,619,557	36,708,985	730,229	34,035,862	464,609,237
9	464,609,237	11,347,729	37,964,526	743,375	34,608,982	471,858,048
10	471,858,048	11,079,006	39,146,896	754,973	35,110,809	478,145,994
11	478,145,994	10,811,169	40,274,088	765,034	35,541,098	483,459,139
12	483,459,139	10,522,061	41,453,533	773,535	35,894,009	487,648,141
13	487,648,141	10,227,249	42,712,865	780,237	36,157,660	490,539,948
14	490,539,948	9,946,258	43,728,868	784,864	36,331,414	492,303,888
15	492,303,888	9,668,921	44,704,743	787,686	36,420,386	492,900,766
16	492,900,766	9,378,081	45,703,640	788,641	36,418,616	492,205,182
17	492,205,182	9,078,277	46,745,627	787,528	36,315,927	490,066,230
18	490,066,230	8,790,935	47,669,231	784,106	36,107,494	486,511,322
19	486,511,322	8,542,155	48,343,188	778,418	35,801,211	481,733,082
20	481,733,082	8,324,211	48,804,642	770,773	35,410,181	475,892,059
21	475,892,059	8,106,598	49,197,268	761,427	34,940,288	468,980,249
22	468,980,249	7,909,754	49,382,714	750,368	34,396,767	461,153,687
23	461,153,687	7,751,328	49,233,030	737,846	33,796,930	452,731,070
24	452,731,070	7,594,721	48,984,407	724,370	33,155,146	443,772,160
25	443,772,160	7,427,650	48,712,673	710,035	32,472,748	434,249,849
26	434,249,849	675,250	48,276,537	694,800	31,510,761	417,464,523
27	417,464,523	534,581	47,667,799	667,943	30,242,240	399,905,601
28	399,905,601	390,766	46,982,760	639,849	28,917,155	381,590,913
29	381,590,913	259,269	46,137,625	610,545	27,540,528	362,642,540
30	362,642,540	168,004	45,003,024	580,228	26,127,500	343,354,792
31	343,354,792	105,071	43,660,423	549,368	24,697,179	323,947,251
32	323,947,251	63,861	42,165,479	518,316	23,264,091	304,591,408
33	304,591,408	37,842	40,509,945	487,346	21,841,435	285,473,394
34	285,473,394	21,707	38,725,674	456,757	20,442,102	266,754,772
35	266,754,772	12,321	36,875,235	426,808	19,076,047	248,541,097
36	248,541,097	6,856	35,000,245	397,666	17,749,719	230,899,762
37	230,899,762	3,743	33,150,397	369,440	16,466,393	213,850,061
38	213,850,061	2,013	31,279,152	342,160	15,229,226	197,459,987
39	197,459,987	1,048	29,403,424	315,936	14,042,779	181,784,455
40	181,784,455	519	27,561,935	290,855	12,909,821	166,842,004
41	166,842,004	220	25,762,799	266,947	11,831,466	152,643,944
42	152,643,944	67	24,012,367	244,230	10,808,344	139,195,757
43	139,195,757	12	22,316,053	222,713	9,840,672	126,497,676
44	126,497,676	3	20,678,105	202,396	8,928,312	114,545,489
45	114,545,489	0	19,101,649	183,273	8,070,822	103,331,389
46	103,331,389	-	17,587,766	165,330	7,267,566	92,845,859
47	92,845,859	-	16,136,316	148,553	6,517,820	83,078,810
48	83,078,810	-	14,756,249	132,926	5,820,481	74,010,116
49	74,010,116	-	13,443,430	118,416	5,174,160	65,622,430
50	65,622,430	-	12,198,237	104,996	4,577,514	57,896,711

## Single Discount Rate Development

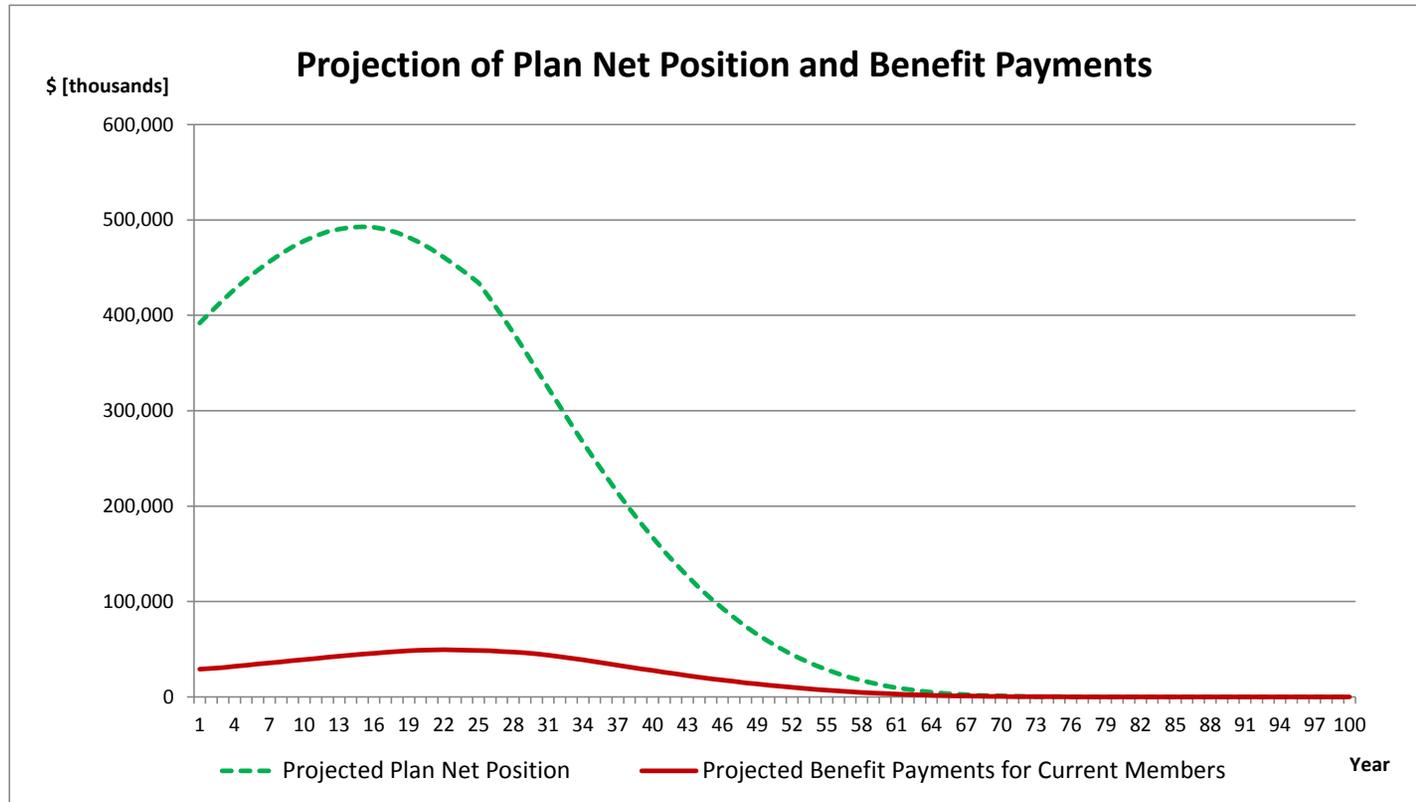
### Present Values of Projected Benefit Payments Beginning July 1, 2013 (Years 1-50)

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 <sup>(a)-5</sup>	(g)=(e)*vf <sup>(a)-5</sup>	(h)=(c)/(1+sdr) <sup>(a)-5</sup>
1	\$ 379,712,035	\$ 29,009,499	\$ 29,009,499	\$ -	\$ 27,979,245	\$ -	\$ 27,979,245
2	391,966,161	29,751,516	29,751,516	-	26,692,940	-	26,692,940
3	404,184,995	30,712,012	30,712,012	-	25,632,272	-	25,632,272
4	416,108,491	31,904,955	31,904,955	-	24,770,143	-	24,770,143
5	427,405,880	33,241,548	33,241,548	-	24,007,291	-	24,007,291
6	437,864,697	34,542,835	34,542,835	-	23,206,595	-	23,206,595
7	447,479,060	35,652,995	35,652,995	-	22,281,324	-	22,281,324
8	456,393,032	36,708,985	36,708,985	-	21,340,712	-	21,340,712
9	464,609,237	37,964,526	37,964,526	-	20,530,808	-	20,530,808
10	471,858,048	39,146,896	39,146,896	-	19,693,228	-	19,693,228
11	478,145,994	40,274,088	40,274,088	-	18,846,766	-	18,846,766
12	483,459,139	41,453,533	41,453,533	-	18,045,304	-	18,045,304
13	487,648,141	42,712,865	42,712,865	-	17,296,288	-	17,296,288
14	490,539,948	43,728,868	43,728,868	-	16,472,289	-	16,472,289
15	492,303,888	44,704,743	44,704,743	-	15,665,017	-	15,665,017
16	492,900,766	45,703,640	45,703,640	-	14,897,713	-	14,897,713
17	492,205,182	46,745,627	46,745,627	-	14,174,291	-	14,174,291
18	490,066,230	47,669,231	47,669,231	-	13,445,905	-	13,445,905
19	486,511,322	48,343,188	48,343,188	-	12,684,656	-	12,684,656
20	481,733,082	48,804,642	48,804,642	-	11,912,312	-	11,912,312
21	475,892,059	49,197,268	49,197,268	-	11,170,368	-	11,170,368
22	468,980,249	49,382,714	49,382,714	-	10,430,208	-	10,430,208
23	461,153,687	49,233,030	49,233,030	-	9,673,110	-	9,673,110
24	452,731,070	48,984,407	48,984,407	-	8,952,801	-	8,952,801
25	443,772,160	48,712,673	48,712,673	-	8,281,988	-	8,281,988
26	434,249,849	48,276,537	48,276,537	-	7,635,197	-	7,635,197
27	417,464,523	47,667,799	47,667,799	-	7,012,951	-	7,012,951
28	399,905,601	46,982,760	46,982,760	-	6,429,923	-	6,429,923
29	381,590,913	46,137,625	46,137,625	-	5,873,730	-	5,873,730
30	362,642,540	45,003,024	45,003,024	-	5,329,568	-	5,329,568
31	343,354,792	43,660,423	43,660,423	-	4,809,831	-	4,809,831
32	323,947,251	42,165,479	42,165,479	-	4,321,061	-	4,321,061
33	304,591,408	40,509,945	40,509,945	-	3,861,771	-	3,861,771
34	285,473,394	38,725,674	38,725,674	-	3,434,120	-	3,434,120
35	266,754,772	36,875,235	36,875,235	-	3,041,885	-	3,041,885
36	248,541,097	35,000,245	35,000,245	-	2,685,781	-	2,685,781
37	230,899,762	33,150,397	33,150,397	-	2,366,354	-	2,366,354
38	213,850,061	31,279,152	31,279,152	-	2,077,005	-	2,077,005
39	197,459,987	29,403,424	29,403,424	-	1,816,235	-	1,816,235
40	181,784,455	27,561,935	27,561,935	-	1,583,709	-	1,583,709
41	166,842,004	25,762,799	25,762,799	-	1,377,052	-	1,377,052
42	152,643,944	24,012,367	24,012,367	-	1,193,943	-	1,193,943
43	139,195,757	22,316,053	22,316,053	-	1,032,185	-	1,032,185
44	126,497,676	20,678,105	20,678,105	-	889,698	-	889,698
45	114,545,489	19,101,649	19,101,649	-	764,529	-	764,529
46	103,331,389	17,587,766	17,587,766	-	654,825	-	654,825
47	92,845,859	16,136,316	16,136,316	-	558,870	-	558,870
48	83,078,810	14,756,249	14,756,249	-	475,416	-	475,416
49	74,010,116	13,443,430	13,443,430	-	402,902	-	402,902
50	65,622,430	12,198,237	12,198,237	-	340,078	-	340,078

## Single Discount Rate Development

### PVs of Projected Benefit Payments Beginning July 1, 2013 (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 <sup>n</sup> ^(a)-.5	(g)=(e)*vf <sup>n</sup> ^(a)-.5	(h)=(c)/(1+sdr) <sup>n</sup> ^(a)-.5
51	\$ 57,896,711	\$ 11,020,827	\$ 11,020,827	\$ -	\$ 285,816	\$ -	\$ 285,816
52	50,812,328	9,911,257	9,911,257	-	239,107	-	239,107
53	44,347,043	8,869,521	8,869,521	-	199,047	-	199,047
54	38,476,956	7,895,478	7,895,478	-	164,826	-	164,826
55	33,176,522	6,988,840	6,988,840	-	135,720	-	135,720
56	28,418,577	6,149,175	6,149,175	-	111,083	-	111,083
57	24,174,370	5,375,794	5,375,794	-	90,337	-	90,337
58	20,413,706	4,667,703	4,667,703	-	72,965	-	72,965
59	17,105,156	4,023,674	4,023,674	-	58,510	-	58,510
60	14,216,208	3,442,130	3,442,130	-	46,561	-	46,561
61	11,713,548	2,920,949	2,920,949	-	36,755	-	36,755
62	9,563,560	2,457,529	2,457,529	-	28,766	-	28,766
63	7,732,807	2,048,933	2,048,933	-	22,310	-	22,310
64	6,188,388	1,691,926	1,691,926	-	17,137	-	17,137
65	4,898,291	1,382,961	1,382,961	-	13,031	-	13,031
66	3,831,779	1,118,196	1,118,196	-	9,801	-	9,801
67	2,959,792	893,622	893,622	-	7,286	-	7,286
68	2,255,249	705,207	705,207	-	5,349	-	5,349
69	1,693,218	548,968	548,968	-	3,873	-	3,873
70	1,251,027	421,046	421,046	-	2,763	-	2,763
71	908,305	317,733	317,733	-	1,940	-	1,940
72	646,995	235,502	235,502	-	1,337	-	1,337
73	451,347	171,088	171,088	-	904	-	904
74	307,810	121,572	121,572	-	597	-	597
75	204,847	84,334	84,334	-	386	-	386
76	132,772	56,990	56,990	-	242	-	242
77	83,641	37,426	37,426	-	148	-	148
78	51,110	23,829	23,829	-	88	-	88
79	30,237	14,677	14,677	-	50	-	50
80	17,287	8,730	8,730	-	28	-	28
81	9,532	5,006	5,006	-	15	-	15
82	5,057	2,759	2,759	-	8	-	8
83	2,576	1,452	1,452	-	4	-	4
84	1,263	724	724	-	2	-	2
85	608	337	337	-	1	-	1
86	304	144	144	-	-	-	-
87	178	56	56	-	-	-	-
88	133	20	20	-	-	-	-
89	122	7	7	-	-	-	-
90	123	3	3	-	-	-	-
91	130	1	1	-	-	-	-
92	138	0	0	-	-	-	-
93	148	0	0	-	-	-	-
94	159	0	0	-	-	-	-
95	171	-	-	-	-	-	-
96	184	-	-	-	-	-	-
97	198	-	-	-	-	-	-
98	213	-	-	-	-	-	-
99	229	-	-	-	-	-	-
100	246	-	-	-	-	-	-
<b>Totals</b>	<b>\$ 509,608,986</b>	<b>\$ 509,608,986</b>	<b>\$ 509,608,986</b>	<b>\$ -</b>	<b>\$ 509,608,986</b>	<b>\$ -</b>	<b>\$ 509,608,986</b>



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## **SECTION H**

### GLOSSARY OF TERMS

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## GLOSSARY OF TERMS

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

## GLOSSARY OF TERMS

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

## GLOSSARY OF TERMS

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

## GLOSSARY OF TERMS

<b><i>Other Postemployment Benefits (OPEB)</i></b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b><i>Total Pension Expense</i></b>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:</p> <ol style="list-style-type: none"> <li>1. Service Cost</li> <li>2. Interest on the Total Pension Liability</li> <li>3. Current-Period Benefit Changes</li> <li>4. Employee Contributions (made negative for addition here)</li> <li>5. Projected Earnings on Plan Investments (made negative for addition here)</li> <li>6. Pension Plan Administrative Expense</li> <li>7. Other Changes in Plan Fiduciary Net Position</li> <li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li> <li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li> </ol>
<b><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.

July 25, 2014

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 copies of the GASB No. 67 Plan Reporting 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,



David L. Hoffman

DLH:bd

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