

**THE GENERAL RETIREMENT SYSTEM OF THE CITY OF
DETROIT**
GASB STATEMENT NO. 67 PLAN REPORTING AND
ACCOUNTING SCHEDULES
JUNE 30, 2014

April 14, 2015

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of this Statement. This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

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 is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2013. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2014 using generally accepted actuarial principles. The asset information as of June 30, 2014 was provided by the System. Participant data as of June 30, 2013 has been appended with data provided by the System as of June 30, 2014 regarding Average Final Compensation. This additional information was necessary in order to estimate the frozen accrued benefits as of June 30, 2014, since frozen accrued benefits as of June 30, 2014 could not be provided prior to the completion of this report. This information was checked for internal consistency, but it was not otherwise audited by Gabriel, Roeder, Smith & Company. A description of the adjustments made to the data is incorporated in this report. Future measurements based on final frozen accrued benefit amounts may differ.

At the direction of the System and approval of the System's Auditor, the long term expected return on assets used to determine the discount rate is 7.2% as of June 30, 2014, down from 8.0% as of June 30, 2013. We understand that the Investment Committee of the General Retirement System of the City of Detroit may recommend future changes to the System's Investment Policy. Due to the uncertainty of those future changes, if any, we are unable to review this assumption for reasonableness.


The benefit provisions reflected in this valuation are those in effect as of the end of the plan year on June 30, 2014. Subsequent to the plan year-end, the City of Detroit's bankruptcy was finalized with additional changes to member benefit provisions. Information regarding those subsequent changes is described in an additional note.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

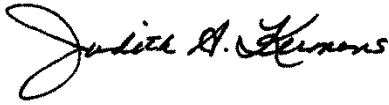
The signing actuaries are independent of the plan sponsor.

David T. Kausch and Judith A. Kermans are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.


Respectfully submitted,

By 

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TABLE OF CONTENTS

		<u>Page</u>
Section A	Executive Summary	
	Executive Summary	1
	Discussion	2
Section B	Financial Statements	
	Statement of Fiduciary Net Position	7
	Statement of Changes in Fiduciary Net Position	8
Section C	Required Supplementary Information	
	Schedule of Changes in Net Pension Liability and Related Ratios Multiyear.....	9
	Schedule of Net Pension Liability Multiyear.....	10
	Schedule of Contributions Multiyear	11
	Notes to Schedule of Contributions	12
Section D	Notes to Financial Statements	
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption.....	13
	Summary of Population Statistics	14
Section E	Summary of Benefits	15
Section F	Actuarial Cost Method and Actuarial Assumptions	
	Valuation Methods, Entry Age Normal	17
	Actuarial Assumptions, Input to Discount Rates, Mortality Assumptions, and Experience Studies	19
	Miscellaneous and Technical Assumptions	23
Section G	Calculation of the Single Discount Rate	
	Calculation of the Single Discount Rate End of Year (EOY).....	24
	Projection of Contributions (EOY)	25
	Projection of Plan Fiduciary Net Position (EOY).....	26
	Present Values of Projected Benefits (EOY)	27
	Projection of Plan Net Position and Benefit Payments (EOY).....	29
	Calculation of the Single Discount Rate Beginning of Year (BOY)	30
	Projection of Contributions (BOY).....	31
	Projection of Plan Fiduciary Net Position (BOY)	32
	Present Values of Projected Benefits (BOY).....	33
	Projection of Plan Net Position and Benefit Payments (BOY).....	35
Section H	Glossary of Terms.....	36

SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY AS OF JUNE 30, 2014

Actuarial Valuation Date	June 30, 2013
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	June 30, 2014

Membership

Number of	
- Retirees and Beneficiaries	12,089
- Inactive, Nonretired Members	2,395
- Active Members	5,364
- Total	19,848
Covered Payroll	\$ 213,291,083

Net Pension Liability

Total Pension Liability	\$ 3,801,649,071
Plan Fiduciary Net Position	2,015,207,879
Net Pension Liability	\$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	53.01%
Net Pension Liability as a Percentage of Covered Payroll	837.56%

Development of the Single Discount Rate as of June 30, 2014

Single Discount Rate	7.20%
Long-Term Expected Rate of Return	7.20%
Long-Term Municipal Bond Rate *	4.29%
Last year ending June 30 in the 2015 to 2114 projection period for which projected benefit payments are fully funded	2114

**Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of June 28, 2014. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.*

DISCUSSION

Implementation of GASB Statement No. 67

The System is implementing GASB No. 67 for the plan year ending June 30, 2014 (the measurement date). The City of Detroit filed for bankruptcy protection on July 18, 2013, after the beginning of the plan year. However, the bankruptcy was not finalized until December 10, 2014, after the end of the plan year. During the bankruptcy process, the plan was amended to freeze all accrued benefits as of June 30, 2014. Therefore, the determination of the System's total pension liability (TPL) as of the beginning of the plan year was based on an open, ongoing plan while the determination of the TPL as of the end of the plan year (the measurement date) reflects the frozen status of benefit accruals. Changes resulting from the bankruptcy proceedings that occurred after the measurement date (the elimination of the post-retirement cost of living increase, reduction in pensions, ASF clawback, potential benefit restoration, and the opening of a new plan for current and future hires) are not reflected in the determination of the TPL.

Changes to the Actuarial Cost Method

The actuarial cost method required under GASB Statement No. 67 is Entry Age Normal, consistent with the method used for funding the plan. Differences between accounting and funding calculations are therefore attributable to differences of assumptions, plan provisions, or other differences in the purpose of the measurement.

Changes to the Actuarial Assumptions

For purposes of determining the total pension liability as of June 30, 2013, all actuarial assumptions are the same as those used in the June 30, 2013 actuarial valuation.

For purposes of determining the total pension liability as of June 30, 2014, the following actuarial assumptions were changed/modified from those used in the June 30, 2013 funding valuation:

- The mortality assumption was changed to the RP-2014 Blue Collar Mortality Tables, Employees and Health Annuitants, set forward 1 year for males and 1 year for females with fully generational mortality projections using the 2-dimensional Mortality Improvement Scale MP-2014. Additional information regarding the rationale for the change in mortality is in the mortality experience study report issued February 24, 2015.
- At the direction of the System and approval of the Systems Auditor, the long term expected return on assets was changed from 7.9% as of June 30, 2013 to 7.2% as of June 30, 2014.

- As of June 30, 2014, adjustments for longevity, and unused sick leave were eliminated. Frozen Average Final Compensation (AFC) was estimated based on reported AFC as of June 30, 2014 plus 25% of reported unused sick leave (capped at a maximum of 25 days per year of service) plus a load of 2% to adjust for data discrepancies. Estimated AFC was compared to salary reported for the valuation for reasonableness. In the event that AFC differed from reported salary by more than 50%, salary was used.
- The 0.8% of payroll normal cost for DC payments was removed.
- All other actuarial assumptions were the same as those used in the June 30, 2013 actuarial valuation (the funding valuation).

Changes to the Benefit Provisions

The total pension liability as of the beginning of the year was based on the plan provisions in effect as of June 30, 2013. The employer contributions were based on the System's funding policy in place as of June 30, 2013: an open 30-year, level percent of pay amortization of the unfunded actuarial accrued liability. Under these assumptions and provisions, the plan fiduciary position was projected to be depleted in 2032, therefore the discount rate as of the beginning of the year was 5.88%, a blend of the 7.20% long-term rate and the 4.27% municipal bond rate (as of June 30, 2013).

The total pension liability as of the end of the year was based on the plan provisions and actuarial assumptions as of June 30, 2014 (including the plan freeze of benefit accruals). The projection of contributions used to determine this Single Discount Rate assumed that plan member contributions will cease as of June 30, 2014 and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment (POA) through June 30, 2023 and a 30-year level principal amortization thereafter. This amortization method results in equivalent reductions in principal each year with declining interest payments over the course of the amortization period. 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 of 7.20% was applied to all periods of projected benefit payments to determine the total pension liability. The 30-year period, beginning July 1, 2023 was chosen because it is the lowest level of funding that we think would be compatible with the principles of the POA and PERSIA (Act 314 of 1965). We have chosen it, simply to demonstrate that at that funding level, the GASB projection indicates that the long term expected rate of return on assets can be used to discount liabilities. In reality, we would of course expect to recommend a higher funding level, the extent of which would depend on facts and circumstances known in 2023. If the current Board Funding Policy were used, the result would be a blended rate between 4.29% (the municipal bond rate as of June 28, 2014) and 7.20%.

The City of Detroit's Bankruptcy was finalized on December 10, 2014, after the end of the plan year. Changes to the benefit provisions as a result of the bankruptcy that occurred after the measurement date are not reflected in the total pension liability as of June 30, 2014, at the direction of the auditors.

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;
- certain information about mortality assumptions and the dates of experience studies; and
- A description of the terms of the plan's deferred retirement option program (DROP) and the total DROP balance for those members currently participating in the DROP.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll;
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- the annual money-weighted rate of return on pension plan investments for each year.

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

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, rolled to the plan year end of June 30, 2014.

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 7.20%; the municipal bond rate is 4.29% (based on the weekly rate closest to but not later than the plan year end of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.20%, as of June 30, 2014.

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.

SECTION B

FINANCIAL STATEMENTS

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

**STATEMENT OF FIDUCIARY NET POSITION
AS OF JUNE 30, 2014**

Assets

Cash and Deposits	\$ 100,166,265
Receivables	
Accounts Receivable - Sale of Investments	\$ 59,064,201
Accrued Interest and Other Dividends	-
Contributions	-
Accounts Receivable - Other	-
Total Receivables	<u>\$ 59,064,201</u>
Investments	
Fixed Income	\$ 116,409,457
Domestic Equities	1,025,590,820
International Equities	-
Real Estate	333,435,240
Other	447,215,993
Total Investments	<u>\$ 1,922,651,510</u>
Total Assets	<u><u>\$ 2,081,881,976</u></u>

Liabilities

Payables	
Accounts Payable - Purchase of Investments	\$ -
Accrued Expenses	-
Accounts Payable - Other	66,674,097
Total Liabilities	<u>\$ 66,674,097</u>
Net Position Restricted for Pensions	<u><u>\$ 2,015,207,879</u></u>

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR YEAR ENDED JUNE 30, 2014**

Additions

Contributions		
Employer		\$ 25,126,131
Employee		10,241,761
Other		-
	Total Contributions	<u>\$ 35,367,892</u>
Investment Income		
Net Appreciation in Fair Value of Investments		\$ 298,533,842
Interest and Dividends		1,000,394
Less Investment Expense		-
	Net Investment Income	<u>\$ 299,534,236</u>
Other		<u>\$ -</u>
	Total Additions	<u>\$ 334,902,128</u>

Deductions

Benefit Payments, including Refunds of Employee Contributions		\$ 397,733,807
Pension Plan Administrative Expense		20,982,396
Other		-
	Total Deductions	<u>\$ 418,716,203</u>
	Net Increase in Net Position	\$ (83,814,075)

Net Position Restricted for Pensions

Beginning of Year		<u>\$ 2,099,021,954</u>
End of Year		<u>\$ 2,015,207,879</u>

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED
RATIOS MULTIYEAR

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2014
Total Pension Liability	
Service Cost	\$ 32,736,019
Interest on the Total Pension Liability	242,611,073
Benefit Changes	(113,311,571)
Difference between Expected and Actual Experience	-
Assumption Changes	(271,190,194)
Benefit Payments	(253,683,194)
Refunds	(144,050,613)
Net Change in Total Pension Liability	(506,888,480)
Total Pension Liability - Beginning	4,308,537,551
Total Pension Liability - Ending (a)	\$ 3,801,649,071
Plan Fiduciary Net Position	
Employer Contributions	\$ 25,126,131
Employee Contributions	10,241,761
Pension Plan Net Investment Income	299,534,236
Benefit Payments	(253,683,194)
Refunds	(144,050,613)
Pension Plan Administrative Expense	(20,982,396)
Other	-
Net Change in Plan Fiduciary Net Position	(83,814,075)
Plan Fiduciary Net Position - Beginning	2,099,021,954
Plan Fiduciary Net Position - Ending (b)	\$ 2,015,207,879
Net Pension Liability - Ending (a) - (b)	\$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage	
of Total Pension Liability	53.01 %
Covered Employee Payroll	\$ 213,291,083
Net Pension Liability as a Percentage	
of Covered Employee Payroll	837.56 %
Notes to Schedule:	
N/A	

The change in TPL resulting from benefit changes shown above reflect the plan freeze.

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

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$3,801,649,071	\$2,015,207,879	\$1,786,441,192	53.01%	\$ 213,291,083	837.56%

* Covered payroll shown is valuation payroll from the June 30, 2013 annual actuarial valuation projected forward with 0% wage growth. Actual covered payroll paid during the year was unavailable.

SCHEDULE OF CONTRIBUTIONS MULTIYEAR

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$80,627,791	\$25,126,131	\$55,501,660	\$213,291,083	11.78%

* Covered payroll shown is valuation payroll from the June 30, 2013 annual actuarial valuation projected forward with 0% wage growth. Actual covered payroll paid during the year was unavailable.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. In particular, the fiscal 2014 actuarially determined employer contribution was calculated in the June 30, 2012 valuation.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent, Open
Remaining Amortization Period	30 years
Asset Valuation Method	7-Year smoothed market; 30% corridor
Inflation	4.0% wage inflation; 3.0% to 3.5% price inflation
Salary Increases	4.0% to 8.9% including inflation
Investment Rate of Return	7.9% net of investment and administrative expenses
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	110% of the RP-2000 Combined Table, set back 0 years for males and 2 years for females.

SCHEDULE OF INVESTMENT RETURNS

This information was not available to Gabriel, Roeder, Smith & Company for this report.

SECTION D

NOTES TO FINANCIAL STATEMENTS

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

Single Discount Rate

A Single Discount Rate of 7.20% was used to measure the total pension liability as of June 30, 2014. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.20% as directed by the System and approved by the System's Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will cease as of June 30, 2014, and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment through June 30, 2023 and contributions consistent with PERSIA and the intention to fully fund the System by 2053 as noted by the bankruptcy Judge. 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 7.20%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

SENSITIVITY OF NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

	Current Single Discount		
	1% Decrease 6.20%	Rate Assumption 7.20%	1% Increase 8.20%
Total Pension Liability (TPL)	\$4,185,443,399	\$3,801,649,071	\$3,481,358,670
Net Position Restricted for Pensions	\$2,015,207,879	\$2,015,207,879	\$2,015,207,879
Net Pension Liability (NPL)	\$2,170,235,520	\$1,786,441,192	\$1,466,150,791

EXPECTED REAL RETURNS BY ASSET CLASS

This information was not available to Gabriel, Roeder, Smith & Company for this report.

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	12,089
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,395
Active Plan Members	5,364
Total Plan Members	19,848

Additional information regarding the plan population may be found in the June 30, 2013 actuarial valuation of the System.

Additional Note

The City of Detroit's Bankruptcy was approved on December 10, 2014. The terms of the bankruptcy included a 4.5% reduction in pensions, future cost of living adjustments reduced to 0.00% and reductions in benefits due to the Annuity Savings Fund clawbacks. The impact on the Total Pension Liability as of June 30, 2014 at the single discount rate of 7.20% was estimated to be a decrease of \$786,592,176, based on the assumptions used for the June 30, 2014 TPL.

Future measurements of GASB No. 67 will be based on the benefit provisions, funding policy, investment policies and actuarial assumptions in effect on future measurement dates. Additional transition costs for future benefit accruals for active members under Component I are not included in this calculation.

SECTION E

SUMMARY OF BENEFITS

SUMMARY OF BENEFIT PROVISIONS (JULY 1, 2013)

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount – EMS Members: Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC. **Other Members:** Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: \$150 after 5 years, \$300 after 10 years, \$450 after 15 years, \$600 after 20 years, and \$750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - APTE hired prior to July 1, 1988: Benefit begins at the age the member would have become eligible for regular retirement if service had continued. **SAAA, Non-Union and lawyers hired prior to June 30, 1986:** Benefit begins at the age the member would have become eligible for regular retirement. **Others:** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before age 60. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is \$9,000. At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) with no maximum.

SUMMARY OF BENEFIT PROVISIONS (CONCLUDED)

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is \$6,000. Benefit is recomputed at age 60 with no maximum.

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is \$9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of \$600 annually.

Non-Duty Death Before Retirement

Eligibility – Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: \$9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service (\$6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members have the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

Frozen Benefits

All benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date. Accrued benefits are estimated in this valuation using service data and average final compensation and sick leave banks provided by the Retirement System. While we believe the estimation techniques are reasonable, there will necessarily be differences between the estimates made, and actual calculated amounts, once they are available. We cannot estimate the extent of those differences. It is expected that actual frozen accrued benefits will be provided for future GASB No. 67 reporting.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

**SUMMARY OF ASSUMPTIONS USED FOR DGRS ACTUARIAL
VALUATION
ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES**

ECONOMIC ASSUMPTIONS

The investment return rate used in making the valuation was 7.9% per year, compounded annually (net after investment expenses) as of June 30, 2013 and 7.2% per year, compounded annually as of June 30, 2014. The real rate of return is the portion of total investment return which is more than the inflation rate. The 7.9% total investment return rate translates to a spread of 3.9% over wage inflation and 4.4% to 4.9% over price inflation.

Pay increase assumptions for individual active members are not used as of June 30, 2014. AFC data was used and assumed to not change in the future, in accordance with the plan freeze.

Total active member payroll is assumed to increase 4.0% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation. This assumption was not used for the June 30, 2014 calculations.

NON-ECONOMIC ASSUMPTIONS

The mortality table used to measure retired life mortality was 100% of the RP-2014 Blue Collar Annuitant Table for set forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set forward 1 year for females. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). This table was first used as of June 30, 2014. For disabled members, the same tables are used.

FUNDING METHODS

The entry age actuarial cost method was used in determining age & service pension liabilities and normal cost, vesting liabilities and normal cost, and casualty pension liabilities and normal cost for calculating the June 30, 2013 TPL. Under this method, each individual's normal cost is determined as a level percent of pay from plan entry to retirement (or plan freeze).

Employer contribution dollars were assumed to be paid in equal monthly installments throughout the employer fiscal year.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

SAMPLE SALARY ADJUSTMENT RATES

Average final compensation is frozen as of June 30, 2014.

SINGLE LIFE RETIREMENT VALUES BASED ON RP-2014 BLUE COLLAR 100% OF MALE RATES SET-FORWARD 1 YEAR 100% OF FEMALE RATES SET-FORWARD 1 YEAR

Sample Attained Ages in 2014	Future Life Expectancy (years)	
	Males	Females
45	38.14	41.51
50	33.20	36.48
55	28.48	31.60
60	23.97	26.87
65	19.70	22.30
70	15.72	18.00
75	12.10	14.07
80	8.94	10.59

**PROBABILITIES OF AGE/SERVICE RETIREMENT
FOR MEMBERS ELIGIBLE TO RETIRE**

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Unreduced Benefits		
	EMS	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

**PROBABILITIES OF EARLY RETIREMENT
FOR MEMBERS ELIGIBLE FOR EARLY RETIREMENT**

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Reduced Benefits
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

PROBABILITIES OF SEPARATION

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal			
		EMS	D.O.T.	Others	
Men	Women				
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338	143	584	188
		1068	212	212 x 0.95	212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	None.
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.
Liability Adjustments	Liabilities were increased by 1.0% to adjust for missing or incomplete data.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit.
Pay Increase Timing	End of (Fiscal) year.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year. Service accruals stop as of June 30, 2014 for measurement of end of year liabilities.
Administrative Expenses	2.10% of payroll was added to the normal cost for ongoing administrative expenses.
Defined Contribution Plan	0.80% of payroll was added to the normal cost for DC payments. (Removed as of June 30, 2014.)
Sick Leave	Sick leave is estimated at retirement assuming 4 days per year of service. (Removed as of June 30, 2014 since this information was included in the 2014 AFC amounts.)
AFC Adjustment	Reported 2014 AFC amounts were increased by 2% for active members due to data discrepancies related to the reported AFC.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE AT END OF YEAR

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

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the 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 7.20%; the municipal bond rate is 4.29%; and the resulting Single Discount Rate is 7.20% as of June 30, 2014.

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). For purposes of determining the discount rate as of June 30, 2014, the employer contributions for the 10-year period ending June 30, 2023 were set by the final Plan of Adjustment. Subsequent employer contributions were determined using a 30-year level principal amortization of any unfunded actuarial accrued liability. This amortization method results in equivalent reductions in principal each year with declining interest payments over the course of the amortization period. This represents the lowest level of funding that we think would be compatible with the principles of the POA and PERSIA. We have chosen it simply to demonstrate that at that funding level, the GASB projection indicates that the long term expected rate of return on assets can be used to discount liabilities. In reality, we expect to recommend a higher funding level, the extent of which would depend on facts and circumstances known at the time the Board makes the decision.

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. For purposes of determining the discount rate as of June 30, 2014, the benefit payments reflect the plan provisions in force as of June 30, 2014. The benefit provisions as of June 30, 2014 include a freeze of accrued benefits as of that date but do not reflect any changes as a result of the Plan of Adjustment (e.g., the elimination of the COLA, reduction in benefits, ASF clawback, and the Component I benefits for future service accruals).

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS END OF YEAR

Year	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions	Projected UAL Contributions	Projected Total Contributions
1	\$ -	\$ -	\$ 5,564,059	\$ 182,635,941	\$ 188,200,000
2	-	-	5,056,840	71,843,160	76,900,000
3	-	-	4,573,034	72,326,966	76,900,000
4	-	-	4,124,041	72,675,959	76,800,000
5	-	-	3,697,270	72,902,730	76,600,000
6	-	-	3,293,637	53,206,363	56,500,000
7	-	-	2,926,469	53,573,531	56,500,000
8	-	-	2,599,957	52,600,043	55,200,000
9	-	-	2,307,231	52,592,769	54,900,000
10	-	-	2,039,367	236,517,589	238,556,956
11	-	-	1,789,920	231,128,580	232,918,500
12	-	-	1,556,838	225,739,572	227,296,410
13	-	-	1,345,173	220,350,564	221,695,737
14	-	-	1,156,993	214,961,555	216,118,548
15	-	-	991,282	209,572,547	210,563,829
16	-	-	844,075	204,183,539	205,027,614
17	-	-	711,976	198,794,530	199,506,506
18	-	-	597,585	193,405,522	194,003,107
19	-	-	498,520	188,016,514	188,515,034
20	-	-	411,069	182,627,505	183,038,574
21	-	-	335,486	177,238,497	177,573,983
22	-	-	270,489	171,849,489	172,119,978
23	-	-	214,295	166,460,480	166,674,775
24	-	-	165,977	161,071,472	161,237,449
25	-	-	127,471	155,682,464	155,809,935
26	-	-	97,680	150,293,455	150,391,135
27	-	-	74,539	144,904,447	144,978,986
28	-	-	56,198	139,515,439	139,571,637
29	-	-	41,312	134,126,430	134,167,742
30	-	-	30,085	128,737,422	128,767,507
31	-	-	21,889	123,348,413	123,370,302
32	-	-	15,752	117,959,405	117,975,157
33	-	-	11,293	112,570,397	112,581,690
34	-	-	8,101	107,181,388	107,189,489
35	-	-	5,789	101,792,380	101,798,169
36	-	-	4,099	96,403,372	96,407,471
37	-	-	2,900	91,014,363	91,017,263
38	-	-	2,065	85,625,355	85,627,420
39	-	-	1,469	80,236,347	80,237,816
40	-	-	1,044	-	1,044
41	-	-	731	-	731
42	-	-	513	-	513
43	-	-	360	-	360
44	-	-	245	-	245
45	-	-	168	-	168
46	-	-	115	-	115
47	-	-	77	-	77
48	-	-	52	-	52
49	-	-	36	-	36
50	-	-	25	-	25

SINGLE DISCOUNT RATE DEVELOPMENT

PROJECTION OF PLAN FIDUCIARY NET POSITION END OF YEAR

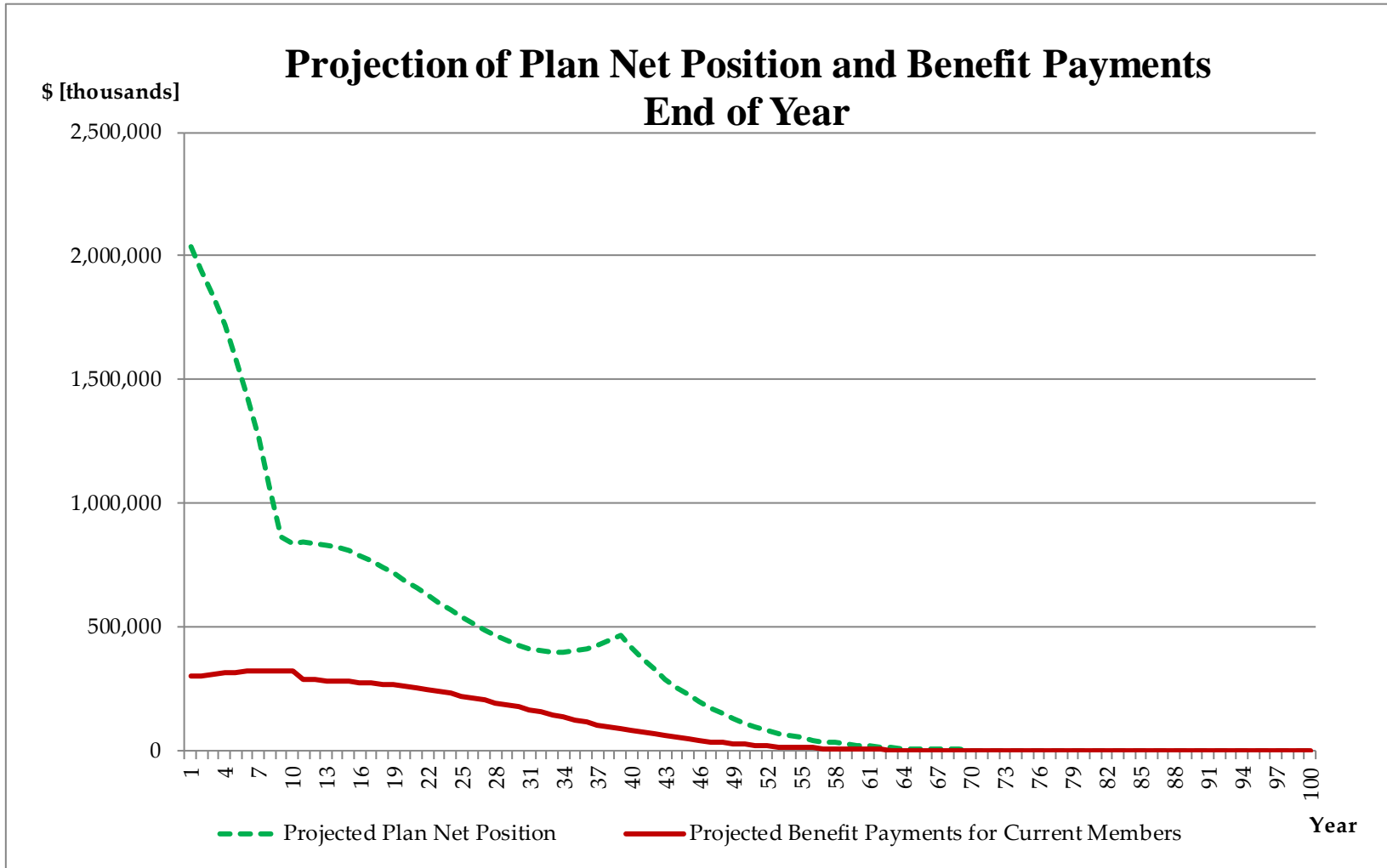
Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.20%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 2,015,207,879	\$ 188,200,000	\$ 301,059,405	\$ 5,564,059	\$ 140,905,817	\$ 2,037,690,232
2	2,037,690,232	76,900,000	304,866,283	5,056,840	138,470,660	1,943,137,768
3	1,943,137,768	76,900,000	308,847,583	4,573,034	131,539,161	1,838,156,313
4	1,838,156,313	76,800,000	312,509,332	4,124,041	123,863,310	1,722,186,250
5	1,722,186,250	76,600,000	316,153,588	3,697,270	115,392,574	1,594,327,967
6	1,594,327,967	56,500,000	319,319,746	3,293,637	105,378,031	1,433,592,615
7	1,433,592,615	56,500,000	321,470,412	2,926,469	93,741,996	1,259,437,730
8	1,259,437,730	55,200,000	323,062,339	2,599,957	81,112,094	1,070,087,528
9	1,070,087,528	54,900,000	324,149,283	2,307,231	67,440,173	865,971,186
10	865,971,186	238,556,956	324,722,682	2,039,367	59,229,729	836,995,823
11	836,995,823	232,918,500	285,426,600	1,789,920	58,342,943	841,040,746
12	841,040,746	227,296,410	285,455,023	1,556,838	58,442,540	839,767,834
13	839,767,834	221,695,737	284,722,344	1,345,173	58,186,176	833,582,230
14	833,582,230	216,118,548	283,220,855	1,156,993	57,603,294	822,926,223
15	822,926,223	210,563,829	281,047,980	991,282	56,722,293	808,173,083
16	808,173,083	205,027,614	278,107,129	844,075	55,573,465	789,822,958
17	789,822,958	199,506,506	274,536,617	711,976	54,187,927	768,268,798
18	768,268,798	194,003,107	270,381,428	597,585	52,592,382	743,885,275
19	743,885,275	188,515,034	265,536,870	498,520	50,817,509	717,182,427
20	717,182,427	183,038,574	260,005,464	411,069	48,899,941	688,704,410
21	688,704,410	177,573,983	253,789,917	335,486	46,878,762	659,031,751
22	659,031,751	172,119,978	246,974,426	270,489	44,792,792	628,699,606
23	628,699,606	166,674,775	239,550,763	214,295	42,680,852	598,290,175
24	598,290,175	161,237,449	231,663,709	165,977	40,579,740	568,277,677
25	568,277,677	155,809,935	223,221,716	127,471	38,526,837	539,265,262
26	539,265,262	150,391,135	214,336,503	97,680	36,561,619	511,783,834
27	511,783,834	144,978,986	205,088,109	74,539	34,719,479	486,319,651
28	486,319,651	139,571,637	195,509,725	56,198	33,034,255	463,359,620
29	463,359,620	134,167,742	185,666,680	41,312	31,538,691	443,358,061
30	443,358,061	128,767,507	175,651,198	30,085	30,262,237	426,706,522
31	426,706,522	123,370,302	165,513,835	21,889	29,231,296	413,772,396
32	413,772,396	117,975,157	155,335,055	15,752	28,469,474	404,866,220
33	404,866,220	112,581,690	145,204,022	11,293	27,995,975	400,228,570
34	400,228,570	107,189,489	135,200,724	8,101	27,825,292	400,034,526
35	400,034,526	101,798,169	125,394,543	5,789	27,967,575	404,399,939
36	404,399,939	96,407,471	115,840,430	4,099	28,429,223	413,392,104
37	413,392,104	91,017,263	106,593,901	2,900	29,213,116	427,025,682
38	427,025,682	85,627,420	97,713,144	2,065	30,318,252	445,256,145
39	445,256,145	80,237,816	89,236,455	1,469	31,740,070	467,996,106
40	467,996,106	1,044	81,189,564	1,044	30,823,693	417,630,235
41	417,630,235	731	73,595,318	731	27,465,992	371,500,909
42	371,500,909	513	66,468,575	513	24,396,784	329,429,118
43	329,429,118	360	59,817,421	360	21,602,895	291,214,592
44	291,214,592	245	53,643,452	245	19,069,850	256,640,989
45	256,640,989	168	47,941,743	168	16,782,244	225,481,490
46	225,481,490	115	42,701,911	115	14,724,116	197,503,696
47	197,503,696	77	37,909,165	77	12,879,255	172,473,785
48	172,473,785	52	33,545,305	52	11,231,470	150,159,951
49	150,159,951	36	29,589,250	36	9,764,817	130,335,518
50	130,335,518	25	26,017,665	25	8,463,800	112,781,652

SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS END OF YEAR

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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/((1+sdr) ^a (a)-.5)
1	\$ 2,015,207,879	\$ 301,059,405	\$ 301,059,405	\$ -	\$ 290,773,488	\$ -	\$ 290,773,488
2	2,037,690,232	304,866,283	304,866,283	-	274,673,789	-	274,673,789
3	1,943,137,768	308,847,583	308,847,583	-	259,571,641	-	259,571,641
4	1,838,156,313	312,509,332	312,509,332	-	245,008,551	-	245,008,551
5	1,722,186,250	316,153,588	316,153,588	-	231,217,968	-	231,217,968
6	1,594,327,967	319,319,746	319,319,746	-	217,848,441	-	217,848,441
7	1,433,592,615	321,470,412	321,470,412	-	204,585,525	-	204,585,525
8	1,259,437,730	323,062,339	323,062,339	-	191,789,772	-	191,789,772
9	1,070,087,528	324,149,283	324,149,283	-	179,510,307	-	179,510,307
10	865,971,186	324,722,682	324,722,682	-	167,749,859	-	167,749,859
11	836,995,823	285,426,600	285,426,600	-	137,546,391	-	137,546,391
12	841,040,746	285,455,023	285,455,023	-	128,320,977	-	128,320,977
13	839,767,834	284,722,344	284,722,344	-	119,395,163	-	119,395,163
14	833,582,230	283,220,855	283,220,855	-	110,788,741	-	110,788,741
15	822,926,223	281,047,980	281,047,980	-	102,554,821	-	102,554,821
16	808,173,083	278,107,129	278,107,129	-	94,665,765	-	94,665,765
17	789,822,958	274,536,617	274,536,617	-	87,173,868	-	87,173,868
18	768,268,798	270,381,428	270,381,428	-	80,088,123	-	80,088,123
19	743,885,275	265,536,870	265,536,870	-	73,370,470	-	73,370,470
20	717,182,427	260,005,464	260,005,464	-	67,016,873	-	67,016,873
21	688,704,410	253,789,917	253,789,917	-	61,021,273	-	61,021,273
22	659,031,751	246,974,426	246,974,426	-	55,394,175	-	55,394,175
23	628,699,606	239,550,763	239,550,763	-	50,120,442	-	50,120,442
24	598,290,175	231,663,709	231,663,709	-	45,214,793	-	45,214,793
25	568,277,677	223,221,716	223,221,716	-	40,640,983	-	40,640,983
26	539,265,262	214,336,503	214,336,503	-	36,402,324	-	36,402,324
27	511,783,834	205,088,109	205,088,109	-	32,492,166	-	32,492,166
28	486,319,651	195,509,725	195,509,725	-	28,894,273	-	28,894,273
29	463,359,620	185,666,680	185,666,680	-	25,596,618	-	25,596,618
30	443,358,061	175,651,198	175,651,198	-	22,589,413	-	22,589,413
31	426,706,522	165,513,835	165,513,835	-	19,856,072	-	19,856,072
32	413,772,396	155,335,055	155,335,055	-	17,383,361	-	17,383,361
33	404,866,220	145,204,022	145,204,022	-	15,158,217	-	15,158,217
34	400,228,570	135,200,724	135,200,724	-	13,165,996	-	13,165,996
35	400,034,526	125,394,543	125,394,543	-	11,390,913	-	11,390,913
36	404,399,939	115,840,430	115,840,430	-	9,816,243	-	9,816,243
37	413,392,104	106,593,901	106,593,901	-	8,426,024	-	8,426,024
38	427,025,682	97,713,144	97,713,144	-	7,205,241	-	7,205,241
39	445,256,145	89,236,455	89,236,455	-	6,138,229	-	6,138,229
40	467,996,106	81,189,564	81,189,564	-	5,209,622	-	5,209,622
41	417,630,235	73,595,318	73,595,318	-	4,405,157	-	4,405,157
42	371,500,909	66,468,575	66,468,575	-	3,711,357	-	3,711,357
43	329,429,118	59,817,421	59,817,421	-	3,115,655	-	3,115,655
44	291,214,592	53,643,452	53,643,452	-	2,606,415	-	2,606,415
45	256,640,989	47,941,743	47,941,743	-	2,172,931	-	2,172,931
46	225,481,490	42,701,911	42,701,911	-	1,805,446	-	1,805,446
47	197,503,696	37,909,165	37,909,165	-	1,495,157	-	1,495,157
48	172,473,785	33,545,305	33,545,305	-	1,234,183	-	1,234,183
49	150,159,951	29,589,250	29,589,250	-	1,015,516	-	1,015,516
50	130,335,518	26,017,665	26,017,665	-	832,964	-	832,964

SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS (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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=((c)/(1+sdr)) ^a (a-.5)
51	\$ 112,781,652	\$ 22,805,629	\$ 22,805,629	\$ -	\$ 681,091	\$ -	\$ 681,091
52	97,289,568	19,927,476	19,927,476	-	555,163	-	555,163
53	83,662,019	17,357,666	17,357,666	-	451,092	-	451,092
54	71,714,003	15,071,303	15,071,303	-	365,367	-	365,367
55	61,272,972	13,044,297	13,044,297	-	294,988	-	294,988
56	52,178,895	11,253,398	11,253,398	-	237,396	-	237,396
57	44,284,296	9,676,343	9,676,343	-	190,417	-	190,417
58	37,454,129	8,292,190	8,292,190	-	152,219	-	152,219
59	31,565,305	7,081,430	7,081,430	-	121,262	-	121,262
60	26,506,077	6,025,924	6,025,924	-	96,257	-	96,257
61	22,175,427	5,108,828	5,108,828	-	76,127	-	76,127
62	18,482,509	4,314,635	4,314,635	-	59,974	-	59,974
63	15,345,988	3,629,224	3,629,224	-	47,059	-	47,059
64	12,693,293	3,039,886	3,039,886	-	36,770	-	36,770
65	10,459,791	2,535,208	2,535,208	-	28,606	-	28,606
66	8,588,006	2,104,952	2,104,952	-	22,156	-	22,156
67	7,026,929	1,740,013	1,740,013	-	17,084	-	17,084
68	5,731,303	1,432,259	1,432,259	-	13,118	-	13,118
69	4,661,033	1,174,277	1,174,277	-	10,033	-	10,033
70	3,780,811	959,258	959,258	-	7,645	-	7,645
71	3,059,838	781,020	781,020	-	5,807	-	5,807
72	2,471,499	634,019	634,019	-	4,397	-	4,397
73	1,993,000	513,347	513,347	-	3,321	-	3,321
74	1,604,990	414,734	414,734	-	2,503	-	2,503
75	1,291,144	334,474	334,474	-	1,883	-	1,883
76	1,037,800	269,340	269,340	-	1,414	-	1,414
77	833,654	216,619	216,619	-	1,061	-	1,061
78	669,395	174,089	174,089	-	796	-	796
79	537,344	139,903	139,903	-	596	-	596
80	431,181	112,495	112,495	-	447	-	447
81	345,751	90,556	90,556	-	336	-	336
82	276,886	73,012	73,012	-	253	-	253
83	221,227	58,972	58,972	-	190	-	190
84	176,097	47,696	47,696	-	144	-	144
85	139,393	38,576	38,576	-	108	-	108
86	109,489	31,133	31,133	-	82	-	82
87	85,138	25,009	25,009	-	61	-	61
88	65,374	19,939	19,939	-	45	-	45
89	49,436	15,721	15,721	-	33	-	33
90	36,719	12,211	12,211	-	24	-	24
91	26,719	9,314	9,314	-	17	-	17
92	18,999	6,959	6,959	-	12	-	12
93	13,162	5,077	5,077	-	8	-	8
94	8,853	3,601	3,601	-	5	-	5
95	5,762	2,478	2,478	-	3	-	3
96	3,611	1,654	1,654	-	2	-	2
97	2,158	1,068	1,068	-	1	-	1
98	1,208	664	664	-	1	-	1
99	607	396	396	-	0	-	0
100	241	-	-	-	-	-	-
Totals	\$ 3,801,649,072	\$ -	\$ -	\$ -	\$ 3,801,649,072	\$ -	\$ 3,801,649,072



CALCULATION OF THE SINGLE DISCOUNT RATE AT BEGINNING OF YEAR

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

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the 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 at the beginning of the year, the expected rate of return on pension plan investments is 7.90%; the municipal bond rate is 4.27% as of June 30, 2013; and the resulting Single Discount Rate is 5.88%.

The tables in this section provide background for the development of the Single Discount Rate at the beginning of the year.

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). For purposes of determining the discount rate as of June 30, 2013, the employer contributions were determined by the System's current funding policy (adopted by the Board) of a 30-year open level percent amortization of any unfunded actuarial accrued liability.

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. For purposes of determining the discount rate as of June 30, 2013, the benefit payments reflect the plan provisions in force as of June 30, 2013.

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS BEGINNING OF YEAR

Year	Contributions from Current Employees	Normal Cost	Administrative Expense Contributions	UAL Contributions	Total Contributions
1	\$ -	\$ 18,722,120	\$ 5,896,387	\$ 60,869,361	\$ 85,487,868
2	-	17,826,504	5,628,448	71,059,663	94,514,615
3	-	16,897,015	5,352,204	82,186,273	104,435,492
4	-	15,921,785	5,063,948	94,305,830	115,291,562
5	-	14,952,664	4,777,927	94,926,273	114,656,864
6	-	13,951,165	4,481,710	97,475,930	115,908,805
7	-	12,934,768	4,177,772	98,897,272	116,009,812
8	-	11,956,396	3,883,389	100,941,367	116,781,152
9	-	11,046,609	3,607,559	103,027,712	117,681,879
10	-	10,193,182	3,346,448	105,157,178	118,696,808
11	-	9,371,502	3,091,922	107,330,658	119,794,082
12	-	8,555,307	2,837,189	109,549,062	120,941,558
13	-	7,744,217	2,582,819	111,813,317	122,140,353
14	-	6,969,023	2,338,218	114,124,372	123,431,614
15	-	6,237,001	2,106,632	116,483,194	124,826,827
16	-	5,554,343	1,889,050	118,890,771	126,334,164
17	-	4,919,107	1,684,495	121,348,109	127,951,711
18	-	4,319,909	1,490,582	123,856,237	129,666,728
19	-	3,774,036	1,312,094	126,416,206	131,502,335
20	-	3,278,132	1,148,784	129,029,086	133,456,002
21	-	2,820,996	995,744	131,695,972	135,512,711
22	-	2,399,850	853,766	134,417,979	137,671,594
23	-	2,020,802	723,860	137,196,247	139,940,909
24	-	1,682,734	606,593	140,031,938	142,321,266
25	-	1,382,494	501,403	142,926,240	144,810,137
26	-	1,126,537	410,872	145,880,364	147,417,773
27	-	916,281	335,395	148,895,547	150,147,222
28	-	740,270	271,925	151,973,050	152,985,245
29	-	593,659	218,577	155,114,161	155,926,397
30	-	470,615	173,353	158,320,196	158,964,164
31	-	371,314	136,956	161,592,496	162,100,766
32	-	290,336	107,266	164,932,430	165,330,033
33	-	222,717	82,323	168,341,397	168,646,438
34	-	169,409	62,668	171,820,824	172,052,901
35	-	128,420	47,487	175,372,167	175,548,073
36	-	96,128	35,441	178,996,911	179,128,480
37	-	70,873	26,139	182,696,576	182,793,588
38	-	52,408	19,349	186,472,708	186,544,464
39	-	38,665	14,359	190,326,888	190,379,912
40	-	28,585	10,629	194,260,730	194,299,944
41	-	20,990	7,857	198,275,880	198,304,727
42	-	15,375	5,746	202,374,019	202,395,139
43	-	11,217	4,196	206,556,861	206,572,275
44	-	8,104	3,068	210,826,159	210,837,331
45	-	5,721	2,204	215,183,697	215,191,622
46	-	4,129	1,588	219,631,302	219,637,018
47	-	2,997	1,142	224,170,833	224,174,972
48	-	2,157	815	228,804,191	228,807,162
49	-	1,445	583	233,533,315	233,535,343
50	-	1,085	424	238,360,185	238,361,695

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING OF YEAR

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.90%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 2,099,021,954	\$ 85,487,868	\$ 314,807,222	\$ 5,896,387	\$ 156,708,301	\$ 2,020,514,514
2	2,020,514,514	94,514,615	317,160,947	5,628,448	150,775,171	1,943,014,905
3	1,943,014,905	104,435,492	320,130,987	5,352,204	144,932,745	1,866,899,951
4	1,866,899,951	115,291,562	323,588,546	5,063,948	139,217,521	1,792,756,540
5	1,792,756,540	114,656,864	327,080,715	4,777,927	133,211,361	1,708,766,124
6	1,708,766,124	115,908,805	330,958,108	4,481,710	126,485,862	1,615,720,973
7	1,615,720,973	116,009,812	334,724,122	4,177,772	119,005,056	1,511,833,947
8	1,511,833,947	116,781,152	337,685,984	3,883,389	110,724,507	1,397,770,234
9	1,397,770,234	117,681,879	340,196,995	3,607,559	101,661,765	1,273,309,324
10	1,273,309,324	118,696,808	342,306,260	3,346,448	91,797,066	1,138,150,491
11	1,138,150,491	119,794,082	286,720,074	3,091,922	83,325,822	1,051,458,399
12	1,051,458,399	120,941,558	288,524,613	2,837,189	76,461,557	957,499,712
13	957,499,712	122,140,353	290,198,402	2,582,819	69,030,272	855,889,116
14	855,889,116	123,431,614	291,151,308	2,338,218	61,025,624	746,856,828
15	746,856,828	124,826,827	291,281,500	2,106,632	52,470,066	630,765,589
16	630,765,589	126,334,164	290,568,691	1,889,050	43,393,318	508,035,329
17	508,035,329	127,951,711	288,953,766	1,684,495	33,830,810	379,179,588
18	379,179,588	129,666,728	286,675,358	1,490,582	23,813,462	244,493,838
19	244,493,838	131,502,335	283,614,078	1,312,094	13,369,955	104,439,956
20	104,439,956	133,456,002	279,600,476	1,148,784	2,543,254	-
21	-	135,512,711	274,738,188	995,744	-	-
22	-	137,671,594	269,045,713	853,766	-	-
23	-	139,940,909	262,542,909	723,860	-	-
24	-	142,321,266	255,265,313	606,593	-	-
25	-	144,810,137	247,373,995	501,403	-	-
26	-	147,417,773	238,680,409	410,872	-	-
27	-	150,147,222	229,362,758	335,395	-	-
28	-	152,985,245	219,575,816	271,925	-	-
29	-	155,926,397	209,376,493	218,577	-	-
30	-	158,964,164	198,919,339	173,353	-	-
31	-	162,100,766	188,254,574	136,956	-	-
32	-	165,330,033	177,456,642	107,266	-	-
33	-	168,646,438	166,693,959	82,323	-	-
34	-	172,052,901	156,017,943	62,668	-	-
35	-	175,548,073	145,548,018	47,487	-	-
36	-	179,128,480	135,362,613	35,441	-	-
37	-	182,793,588	125,473,496	26,139	-	-
38	-	186,544,464	115,920,393	19,349	-	-
39	-	190,379,912	106,790,812	14,359	-	-
40	-	194,299,944	98,111,309	10,629	-	-
41	-	198,304,727	89,852,245	7,857	-	-
42	-	202,395,139	82,030,295	5,746	-	-
43	-	206,572,275	74,661,783	4,196	-	-
44	-	210,837,331	67,746,573	3,068	-	-
45	-	215,191,622	61,277,557	2,204	-	-
46	-	219,637,018	55,250,885	1,588	-	-
47	-	224,174,972	49,654,343	1,142	-	-
48	-	228,807,162	44,473,963	815	-	-
49	-	233,535,343	39,694,283	583	-	-
50	-	238,361,695	35,299,001	424	-	-

SINGLE DISCOUNT RATE DEVELOPMENT

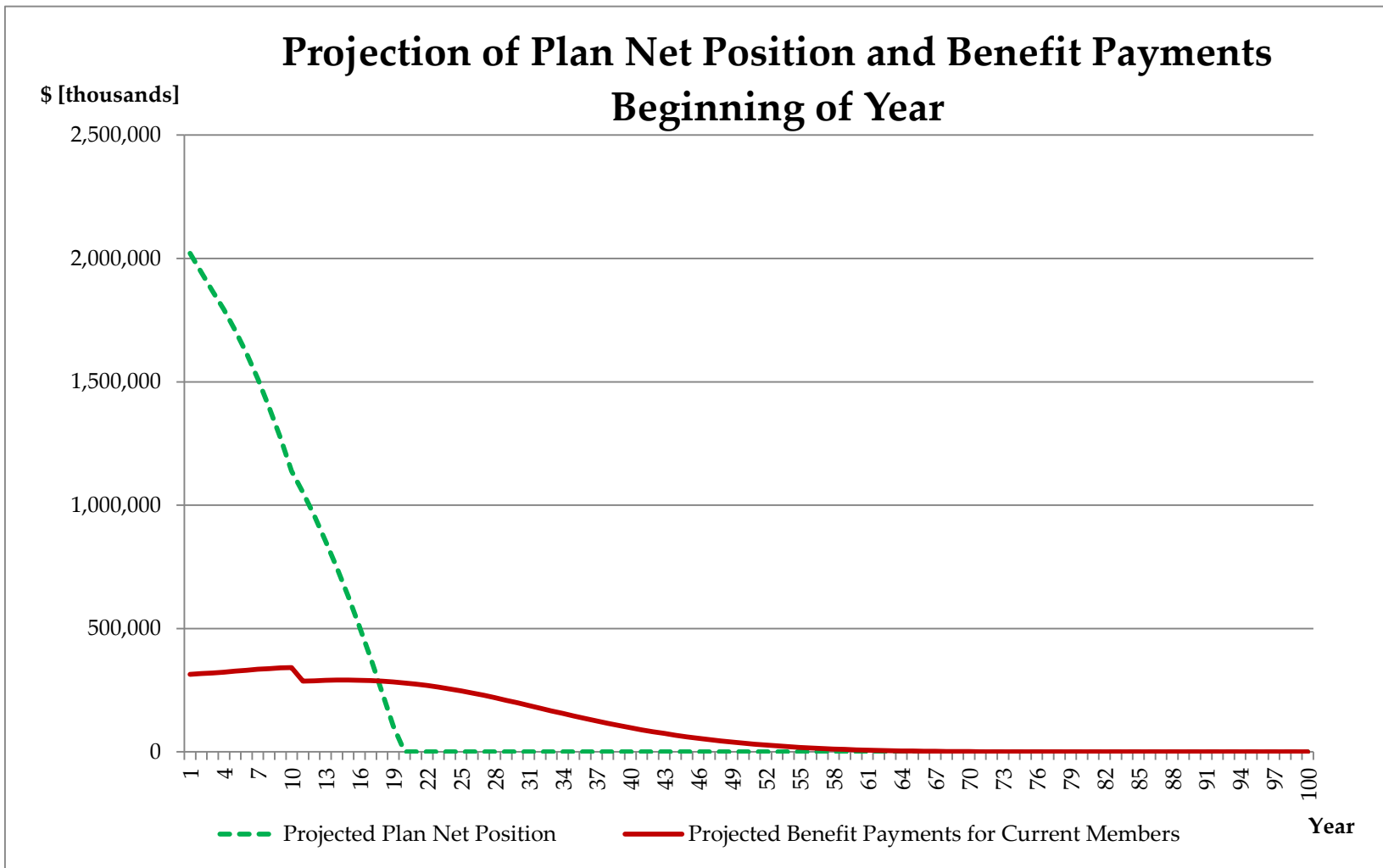
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING OF YEAR

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)=(c)/(1+sdr)^(a)-.5
1	\$ 2,099,021,954	\$ 314,807,222	\$ 314,807,222	\$ -	\$ 303,063,730	\$ -	\$ 305,943,223
2	2,020,514,514	317,160,947	317,160,947	-	282,974,655	-	291,117,396
3	1,943,014,905	320,130,987	320,130,987	-	264,712,288	-	277,529,062
4	1,866,899,951	323,588,546	323,588,546	-	247,980,815	-	264,951,387
5	1,792,756,540	327,080,715	327,080,715	-	232,304,936	-	252,941,621
6	1,708,766,124	330,958,108	330,958,108	-	217,848,753	-	241,730,075
7	1,615,720,973	334,724,122	334,724,122	-	204,196,183	-	230,906,934
8	1,511,833,947	337,685,984	337,685,984	-	190,920,340	-	220,016,525
9	1,397,770,234	340,196,995	340,196,995	-	178,257,657	-	209,346,180
10	1,273,309,324	342,306,260	342,306,260	-	166,230,655	-	198,948,977
11	1,138,150,491	286,720,074	286,720,074	-	129,042,548	-	157,390,049
12	1,051,458,399	288,524,613	288,524,613	-	120,347,273	-	149,587,168
13	957,499,712	290,198,402	290,198,402	-	112,182,976	-	142,101,542
14	855,889,116	291,151,308	291,151,308	-	104,310,792	-	134,652,624
15	746,856,828	291,281,500	291,281,500	-	96,716,808	-	127,233,444
16	630,765,589	290,568,691	290,568,691	-	89,416,244	-	119,875,242
17	508,035,329	288,953,766	288,953,766	-	82,408,977	-	112,590,395
18	379,179,588	286,675,358	286,675,358	-	75,773,105	-	105,500,775
19	244,493,838	283,614,078	283,614,078	-	69,475,400	-	98,579,219
20	104,439,956	279,600,476	108,486,926	171,113,550	24,629,706	75,714,074	91,788,399
21	-	274,738,188	-	274,738,188	-	116,587,468	85,184,626
22	-	269,045,713	-	269,045,713	-	109,496,325	78,788,090
23	-	262,542,909	-	262,542,909	-	102,474,165	72,615,125
24	-	255,265,313	-	255,265,313	-	95,553,484	66,682,351
25	-	247,373,995	-	247,373,995	-	88,807,448	61,033,102
26	-	238,680,409	-	238,680,409	-	82,177,467	55,618,654
27	-	229,362,758	-	229,362,758	-	75,735,501	50,479,949
28	-	219,575,816	-	219,575,816	-	69,534,724	45,642,856
29	-	209,376,493	-	209,376,493	-	63,589,554	41,106,313
30	-	198,919,339	-	198,919,339	-	57,939,599	36,885,011
31	-	188,254,574	-	188,254,574	-	52,587,757	32,969,378
32	-	177,456,642	-	177,456,642	-	47,541,403	29,352,816
33	-	166,693,959	-	166,693,959	-	42,829,225	26,041,721
34	-	156,017,943	-	156,017,943	-	38,444,617	23,020,602
35	-	145,548,018	-	145,548,018	-	34,395,997	20,283,398
36	-	135,362,613	-	135,362,613	-	30,678,984	17,816,626
37	-	125,473,496	-	125,473,496	-	27,273,123	15,598,076
38	-	115,920,393	-	115,920,393	-	24,164,807	13,610,409
39	-	106,790,812	-	106,790,812	-	21,350,006	11,842,340
40	-	98,111,309	-	98,111,309	-	18,811,517	10,275,785
41	-	89,852,245	-	89,852,245	-	16,522,445	8,888,269
42	-	82,030,295	-	82,030,295	-	14,466,393	7,663,988
43	-	74,661,783	-	74,661,783	-	12,627,721	6,588,267
44	-	67,746,573	-	67,746,573	-	10,988,909	5,646,151
45	-	61,277,557	-	61,277,557	-	9,532,555	4,823,462
46	-	55,250,885	-	55,250,885	-	8,243,046	4,107,608
47	-	49,654,343	-	49,654,343	-	7,104,710	3,486,577
48	-	44,473,963	-	44,473,963	-	6,102,891	2,949,444
49	-	39,694,283	-	39,694,283	-	5,223,942	2,486,306
50	-	35,299,001	-	35,299,001	-	4,455,264	2,088,245

SINGLE DISCOUNT RATE DEVELOPMENT

PRESENT VALUES OF PROJECTED BENEFITS BEGINNING OF YEAR (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{((a)-.5)}	(g)=(e)*vf ^{((a)-.5)}	(h)=-((c)/(1+sdr) ^(a-.5)
51	\$ -	\$ 31,271,362	\$ -	\$ 31,271,362	\$ -	\$ 3,785,284	\$ 1,747,262
52	-	27,593,704	-	27,593,704	-	3,203,334	1,456,175
53	-	24,247,979	-	24,247,979	-	2,699,656	1,208,569
54	-	21,215,782	-	21,215,782	-	2,265,336	998,728
55	-	18,478,583	-	18,478,583	-	1,892,269	821,579
56	-	16,018,179	-	16,018,179	-	1,573,142	672,645
57	-	13,816,782	-	13,816,782	-	1,301,374	547,989
58	-	11,856,632	-	11,856,632	-	1,071,019	444,139
59	-	10,120,347	-	10,120,347	-	876,743	358,051
60	-	8,591,333	-	8,591,333	-	713,802	287,080
61	-	7,253,139	-	7,253,139	-	577,941	228,908
62	-	6,089,468	-	6,089,468	-	465,348	181,512
63	-	5,084,318	-	5,084,318	-	372,625	143,137
64	-	4,221,968	-	4,221,968	-	296,753	112,260
65	-	3,487,066	-	3,487,066	-	235,061	87,572
66	-	2,864,792	-	2,864,792	-	185,206	67,950
67	-	2,341,087	-	2,341,087	-	145,151	52,445
68	-	1,902,884	-	1,902,884	-	113,150	40,262
69	-	1,538,240	-	1,538,240	-	87,722	30,739
70	-	1,236,414	-	1,236,414	-	67,622	23,336
71	-	987,947	-	987,947	-	51,820	17,611
72	-	784,576	-	784,576	-	39,468	13,209
73	-	619,126	-	619,126	-	29,869	9,845
74	-	485,381	-	485,381	-	22,458	7,290
75	-	378,006	-	378,006	-	16,774	5,362
76	-	292,436	-	292,436	-	12,445	3,918
77	-	224,765	-	224,765	-	9,174	2,844
78	-	171,668	-	171,668	-	6,720	2,052
79	-	130,319	-	130,319	-	4,892	1,471
80	-	98,335	-	98,335	-	3,540	1,048
81	-	73,734	-	73,734	-	2,546	742
82	-	54,908	-	54,908	-	1,818	522
83	-	40,580	-	40,580	-	1,289	364
84	-	29,740	-	29,740	-	906	252
85	-	21,598	-	21,598	-	631	173
86	-	15,532	-	15,532	-	435	118
87	-	11,057	-	11,057	-	297	79
88	-	7,794	-	7,794	-	201	53
89	-	5,439	-	5,439	-	134	35
90	-	3,762	-	3,762	-	89	23
91	-	2,584	-	2,584	-	59	15
92	-	1,766	-	1,766	-	39	9
93	-	1,201	-	1,201	-	25	6
94	-	812	-	812	-	16	4
95	-	544	-	544	-	10	2
96	-	360	-	360	-	7	2
97	-	234	-	234	-	4	1
98	-	149	-	149	-	3	1
99	-	93	-	93	-	2	0
100	-	61	-	61	-	1	0
Totals					\$ 3,192,793,843	\$ 1,393,089,328	\$ 4,585,883,171



SECTION H
GLOSSARY OF TERMS

GLOSSARY OF TERMS

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

GLOSSARY OF TERMS

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

GLOSSARY OF TERMS

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

GLOSSARY OF TERMS

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


April 14, 2015

Ms. Cynthia Thomas, Executive Director
The General Retirement System of the City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, Michigan 48226

Dear Ms. Thomas:

Please find enclosed 20 copies of the GASB Statement No. 67 Plan Reporting Accounting Schedules report of the General Retirement System of the City of Detroit.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth G. Alberts". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth G. Alberts

KGA:mrh
Enclosure

cc: David T. Kausch, GRS
Judith A. Kermans, GRS
Brian B. Murphy, GRS