

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

April 20, 2015

Board of Trustees
The Police and Fire Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the Police and Fire 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 (before accounting for sick leave roll-in) and individual sick banks. This additional information was necessary to more accurately estimate the frozen accrued benefits as of June 30, 2014 since frozen accrued benefits as of June 30, 2014 could not be provided by the System prior to the completion of this report. This information was checked for internal consistency, but it was not otherwise audited by GRS. A description of the adjustments made to the data is included in this report. Future measurements based on final frozen accrued benefit amounts may differ.

At the direction of the System and with 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 Police and Fire 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 for the development of the end of year TPL 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 and dictated 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 with this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB 67 reporting. 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.

This report replaces our report dated March 31, 2015. This contains revised calculations based on new asset amounts provided by the Retirement System's auditors. The revised assets affected most of the results in the report.

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 David T. Kausch
David T. Kausch, FSA, EA, MAAA
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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	8,476
- DROP Members	565
- Inactive, Nonretired Members	235
- Active Members	2,701
- Total	11,977
Covered Payroll (excluding DROP)	\$ 150,176,596

Net Pension Liability

Total Pension Liability	\$ 4,407,788,045
Plan Fiduciary Net Position	3,276,203,299
Net Pension Liability	\$ 1,131,584,746
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	74.33%
Net Pension Liability as a Percentage of Covered Payroll	753.50%

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 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 reduction of the post-retirement cost of living increase, 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 No. 67 is a variation of the Entry Age Normal actuarial cost method that differs from the method used by the System for funding purposes. The GASB Entry Age method requires the normal cost to be determined as the level percent of payroll necessary to finance benefits accumulating from a member's hire date until entry into the DROP (the normal cost attribution period). The System's funding method accumulates normal cost from a member's hire date until the expected retirement at the end of the DROP period. In order to adjust the cost method to comply with GASB No. 67, all members currently in the DROP have total pension liability equal to the present value of benefits. All active members not in the DROP are assumed to have a 40% chance of retiring or entering the DROP in their first five years of retirement eligibility with a 60% chance of entering the DROP.

In the beginning of year determinations, the normal cost attribution period ended on the earlier of DROP entry or actual separation from active service. In the end of year determinations, the normal cost attribution period ended on the measurement date, reflecting the cessation of benefit accruals due to the plan freeze.

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 (with the exception of the necessary changes to comply with the GASB No. 67 actuarial cost method as described above).

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, for males and 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 13, 2015.
- At the direction of the System and approval of the Systems' Auditor, the long term expected return on assets was changed from 8.0% as of June 30, 2013 to 7.2% as of June 30, 2014.
- As of June 30, 2014, adjustments for longevity, unused sick leave, and service purchases were removed since they were provided explicitly in the data. 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 6% to adjust for data discrepancies.
- Retirement probabilities were modified (as discussed above) to comply with the GASB No. 67 prescribed treatment of the DROP provision.
- 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: a closed 28-year, level dollar amortization of the unfunded actuarial accrued liability. Under these assumptions and provisions, the plan fiduciary position was projected to sustain plan benefits, therefore the discount rate as of the beginning of the year was 8.00%.

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 through June 30, 2023 and a 30-year closed level dollar amortization thereafter. 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 to illustrate the projection of net plan position due to its use in the City's 40 year forecasting included in the Plan of adjustment and the State requirements under the Michigan Constitution and the Public Employees Retirement System Investment Act (PERSIA). There have been a number of changes resulting from the Bankruptcy and the Board has not yet determined if changes to the funding policy are warranted and what those changes might be. While we have used professional judgment in selecting this amortization period for illustrative purposes, we may recommend a faster amortization of the unfunded actuarial accrued liability. If the current Board Funding Policy were used, the result on the blended interest rate would be unchanged.

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.

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, “Financial Reporting for Pension Plans,” replaces the requirements of GASB Statement No. 25, “Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and GASB Statement No. 50, “Pension Disclosures.” GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report, and your internal staff will be responsible for preparing that information to comply with this accounting standard.

Financial Statements

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

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

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

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

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

Notes to Financial Statements

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

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- a description of how fair value is determined;
- concentrations of investments greater than or equal to 5%;
- annual money-weighted rate of return on pension plan investments;
- the portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- the pension plan's fiduciary net position;
- the net pension liability;
- the pension plan's fiduciary net position as a percentage of the total pension liability;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.
- 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. ***Current DROP balances for members of this plan are not available and are not included. These balances are also excluded from the reported assets.***

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	\$	135,060,768
Receivables		
Accounts Receivable - Sale of Investments	\$	62,592,961
Accrued Interest and Other Dividends		-
Contributions		-
Accounts Receivable - Other		-
Total Receivables	<u>\$</u>	<u>62,592,961</u>
Investments		
Fixed Income	\$	697,555,113
Domestic Equities		1,295,157,265
International Equities		-
Real Estate		662,300,305
Other		528,645,601
Total Investments	<u>\$</u>	<u>3,183,658,284</u>
Total Assets	<u>\$</u>	<u>3,381,312,013</u>

Liabilities

Payables		
Accounts Payable - Purchase of Investments	\$	-
Accrued Expenses		-
Accounts Payable - Other		105,108,714
Total Liabilities	<u>\$</u>	<u>105,108,714</u>

Net Position Restricted for Pensions	<u>\$</u>	<u>3,276,203,299</u>
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**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR YEAR ENDED JUNE 30, 2014**

Additions

Contributions		
Employer	\$	-
Employee		7,783,141
Other		-
Total Contributions	\$	7,783,141
Investment Income		
Net Appreciation in Fair Value of Investments	\$	568,760,793
Interest and Dividends		-
Less Investment Expense		-
Net Investment Income	\$	568,760,793
Other	\$	-
Total Additions	\$	576,543,934

Deductions

Benefit Payments, including Refunds of Employee Contributions	\$	323,540,473
Pension Plan Administrative Expense		11,373,226
Other		-
Total Deductions	\$	334,913,699
Net Increase in Net Position	\$	241,630,235

Net Position Restricted for Pensions

Beginning of Year	\$	3,034,573,064
End of Year	\$	3,276,203,299

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	\$ 34,967,708
Interest on the Total Pension Liability	304,737,368
Benefit Changes	(102,236,878)
Difference between Expected and Actual Experience	-
Assumption Changes	540,356,835
Benefit Payments	(285,512,629)
Refunds	(38,027,844)
Net Change in Total Pension Liability	454,284,561
Total Pension Liability - Beginning	3,953,503,484
Total Pension Liability - Ending (a)	\$ 4,407,788,045
Plan Fiduciary Net Position	
Employer Contributions	\$ -
Employee Contributions	7,783,141
Pension Plan Net Investment Income	568,760,793
Benefit Payments	(285,512,629)
Refunds	(38,027,844)
Pension Plan Administrative Expense	(11,373,226)
Other	-
Net Change in Plan Fiduciary Net Position	241,630,235
Plan Fiduciary Net Position - Beginning	3,034,573,064
Plan Fiduciary Net Position - Ending (b)	\$ 3,276,203,299
Net Pension Liability - Ending (a) - (b)	1,131,584,746
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	74.33 %
Covered Employee Payroll (excluding DROP)	\$ 150,176,596
Net Pension Liability as a Percentage of Covered Employee Payroll	753.50 %
Notes to Schedule:	
N/A	

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

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION
Schedule of the Net Pension Liability Multiyear

Ultimately 10 Fiscal Years will be Displayed

<u>FY Ending June 30,</u>	<u>Total Pension Liability</u>	<u>Plan Net Position</u>	<u>Net Pension Liability</u>	<u>Plan Net Position as a % of Total Pension Liability</u>	<u>Covered Payroll*</u>	<u>Net Pension Liability as a % of Covered Payroll</u>
2014	\$ 4,407,788,045	\$ 3,276,203,299	\$ 1,131,584,746	74.33%	\$ 150,176,596	753.50%

* 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. Covered payroll for this purpose excludes DROP member payroll.

Schedule of Contributions Multiyear

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$ 62,954,305	\$ -	\$ 62,954,305	\$ 186,694,166	0.00%

* Includes DROP members, consistent with Plan Funding.

Notes to Schedule of Contributions

Valuation Date: June 30, 2013

Notes: The roll-forward of total pension liability from June 30, 2013 to June 30, 2014 reflects expected service cost and interest reduced by actual benefit payments and administrative expenses.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	28 years
Asset Valuation Method	7-Year smoothed market; 30% corridor
Inflation	4.0% wage inflation%; 3.0% price inflation
Salary Increases	5.0% to 9.2% including inflation
Investment Rate of Return	8.0% net of investment and administrative expenses
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	95% of the RP-2000 Combined Table for males and 100% of the RP-2000 Combined Table set back 2 years for females. No provision is currently made for future improvements in mortality after the measurement date.

Other Information:

Notes

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 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 the System's funding policy thereafter. 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

	1% Decrease 6.20%	Current Single Discount Rate Assumption 7.20%	1% Increase 8.20%
Total Pension Liability (TPL)	\$4,920,851,168	\$4,407,788,045	\$3,983,836,058
Net Position Restricted for Pensions	\$3,276,203,299	\$3,276,203,299	\$3,276,203,299
Net Pension Liability (NPL)	\$1,644,647,869	\$1,131,584,746	\$ 707,632,759

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	8,476
DROP Members	565
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	235
Active Plan Members	<u>2,701</u>
Total Plan Members	11,977

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 reduction in future cost of living adjustments to 1.0125% for members of the System. The impact on the Total Pension Liability as of June 30, 2014 at the single discount rate of 7.20% is a decrease of \$540,232,272.

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 Retirement

Eligibility - 25 years of service regardless of age. 20 years of service regardless of age for eligible DPOA and DFFA members. DFFA members must retire by age 60.

Annual Amount - An annuity equal to the actuarial equivalent of the member's accumulated contribution account plus a defined benefit, which, when added to the annuity will provide the following:

Pre-1969 Members - For all service earned up to April 5, 2011 for LSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer's or firefighter's annual rate of compensation (actuarially reduced to reflect early payment).

For all service earned after April 5, 2011 for LSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer's or firefighter's annual rate of compensation.

1969 Plan Members - For all service earned up to April 5, 2011 for LSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service plus 2.1% of AFC times each of the next 10 years of service.

For all service earned after April 5, 2011 for LSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times each year of service, up to 35 years of service.

Members may elect to receive their accumulated contribution account in a lump sum after 25 years of service (20 years of service for eligible DPOA and DFFA members). The defined benefit at retirement is then reduced by the actuarial equivalent of the amount of principal withdrawn. No reduction is made with regard to the interest portion of the withdrawal. Pre-1969 plan members may elect 1969 plan benefits at the time of retirement.

Type of Average Final Compensation (AFC) - Average of the current compensation for the ranks held in each of last 5 years (last 3 years for DPCOA, Executive Members and their Fire equivalents). Pension benefits for non-union employees may not be diminished due to a reduction in compensation because of fiscal emergency. AFC includes prior longevity distributions during the averaging period in accordance with the following schedule: 1% of compensation after 5 years of service, 2% after 11 years, 3% after 16 years and 4% after 21 years. A member may elect that upon retirement or upon death before retirement either (i) a lump sum payment equal to 85% (100% for DPOA and DPCOA members) of the amount of his or her unused accumulated sick leave bank, or (ii) to have the 3-year average of 25% of the value of the accumulated unused sick leave bank added to his or her AFC. Any member electing the AFC adjustment option will also be paid a lump sum equal to the remaining value of the sick leave bank as provided in (i) above. Lump sum payments are not paid by the retirement system.

SUMMARY OF BENEFIT PROVISIONS (CONTINUED)

Deferred Retirement (vested benefit)

Eligibility - 10 years of service for DPOA and Fire equivalents, age 40 with 8 years of service for all others.

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

Benefit Commencement - DPOA and Fire equivalent members hired after 6/30/85: Unreduced benefit begins at age 62. **All other members:** Unreduced benefit begins at the age when the member would have first been eligible for regular retirement had the member continued in City service. **All** members may elect a reduced benefit payable immediately.

Duty Disability Retirement

Eligibility - No age or service requirement.

Annual Amount – A basic benefit of 50% of final compensation and a supplemental benefit of 16-2/3% of final compensation is payable for 24 months. After 24 months, members disabled from any occupation continue to receive both benefits; otherwise, only the 50% benefit is then payable. Upon attaining 25 years of service, the disability benefit is 50% of final compensation. Members convert to regular retirement benefit at age 65. Worker's compensation payments are offset. Members who have already filed under the old duty disability plan will receive 66-2/3% of final compensation payable to eligibility date for regular retirement.

Non-Duty Disability Retirement

Eligibility - 5 years of service.

Annual Amount - Computed as a regular retirement benefit, but based on average final compensation and credited service at the time of disability. Minimum benefit is 20% of average final compensation.

Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount – Surviving spouse receives 5/11 of police officer's or firefighter's compensation and each child under age 18 receives 1/10 of such compensation with a maximum total of 7/33 of such compensation. If there is no surviving spouse, each child receives 1/4 of such compensation with a maximum total of 1/2 of such compensation. If there is no surviving spouse or children, each dependent parent receives 1/6 of such compensation. Worker's compensation payments are offset.

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 DPFRS ACTUARIAL VALUATION ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES

ECONOMIC ASSUMPTIONS

For the Determination of the June 30, 2013 Total Pension Liability (TPL):

The investment return rate used in the valuation was 8.0% per year, compounded annually (net after investment expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. Considering other financial assumptions, the 8.0% total investment return rate translates to an assumed real rate of return of 4.0% over wage inflation. This assumption was first used for the June 30, 2010 valuation. It was adopted by the Board of Trustees, at the request of the employer, without regard to the routine 5-year experience studies schedule.

Pay increase assumptions for individual active members are not used as of June 30, 2014. Part of the assumption for each age is for a merit and/or seniority increase, and the other recognizes wage inflation (assumed to be 0% for the next year and 4% per year thereafter).

For the Determination of the June 30, 2014 TPL:

The investment return rate used in the valuation was 7.2% per year, compounded annually (net after investment expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. Considering other financial assumptions, the 7.2% total investment return rate translates to an assumed real rate of return of 3.2% over wage inflation.

Pay increase assumptions were not changed from the assumption used for the June 30, 2013 TPL. However, since we valued frozen accrued benefits based on final average compensation (AFC) provided in the data and the attribution period ended on the measurement date, this assumption does not directly affect active valuation results. This assumption does affect the COLA for pre-69 plan retirees.

NON-ECONOMIC ASSUMPTIONS

The mortality table used to measure retired life mortality is the RP-2014 Blue Collar Annuitant Table for males and females. Pre-retirement mortality is the RP-2014 Blue Collar Employee Tables for males and 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.

DATA ADJUSTMENTS

The estimates of the frozen accrued benefits for active members were based on data submitted for the June 30, 2013 actuarial valuation. The System provided Average Final Compensation (AFC) and sick bank data as of June 30, 2014. We estimated the AFC by including 25% of the reported sick bank (limited to 25 days per year of service). The System provided a random sample of actual computations of benefits for several members who retired between June 30, 2014 and March 1, 2014. We compared our estimate of the frozen accrued benefits, based on the active data provided for these members to their actual benefit computations. Based on these comparisons, we increased the frozen accrued benefit estimates based on the active member data by 6% to account for the average reconciliation to the sample of actual calculations.

SAMPLE SALARY ADJUSTMENT RATES

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

SINGLE LIFE RETIREMENT VALUES BASED ON RP-2014 COMBINED FOR MALES AND FEMALES

Sample Attained Ages in 2014	Future Life Expectancy (years)	
	Males	Females
45	39.15	42.53
50	34.17	37.47
55	29.40	32.57
60	24.86	27.80
65	20.53	23.20
70	16.49	18.83
75	12.79	14.82
80	9.53	11.24

PROBABILITIES OF SERVICE RETIREMENT

Service	Percent of Eligible Active Members Retiring Within Next Year			
	Police		Fire	
	20&Out	25 &Out	20&Out	25 &Out
19	40%		40%	
20	40%		40%	
21	40%		40%	
22	40%		40%	
23	40%		40%	
24	100%	40%	100%	40%
25	100%	40%	100%	40%
26	100%	40%	100%	40%
27	100%	40%	100%	40%
28	100%	40%	100%	40%
29	100%	100%	100%	100%
30	100%	100%	100%	100%
31	100%	100%	100%	100%
32	100%	100%	100%	100%
33	100%	100%	100%	100%
34	100%	100%	100%	100%
35	100%	100%	100%	100%
36	100%	100%	100%	100%
37	100%	100%	100%	100%
38	100%	100%	100%	100%
39	100%	100%	100%	100%
40	100%	100%	100%	100%

Age	Percent of Eligible Active Members Retiring Within Next Year	
	Police	Fire
	60	40%
61	40%	100%
62	40%	100%
63	40%	100%
64	40%	100%
65	100%	100%
66	100%	100%
67	100%	100%
68	100%	100%
69	100%	100%
70	100%	100%

Members eligible for 20 & Out are assumed to be first eligible for normal retirement after 19 years of service due to their ability to purchase service. Members eligible for 25 & Out are assumed to be eligible for normal retirement after 24 years of service due to their ability to purchase service. Members are also eligible to retire at age 60 with no service requirement.

PROBABILITIES OF SEPARATION

Sample Ages	Years of Service	% of Active Members Withdrawing within Next Year	
		Police	Fire
ALL	0	8.50%	5.00%
	1	7.50%	4.00%
	2	6.00%	3.00%
	3	5.00%	2.00%
	4	4.50%	2.00%
25	5 & Over	4.50%	1.96%
30		3.30%	1.62%
35		2.30%	1.11%
40		1.70%	0.77%
45		1.50%	0.60%
50		1.10%	0.51%
55		0.80%	0.51%
60		0.80%	0.51%
Ref		566 207	230 113 x .85

Sample Ages	% of Active Members Becoming Disabled within Next Year			
	Police		Fire	
	Ordinary	Duty	Ordinary	Duty
25	0.06%	0.13%	0.07%	0.34%
30	0.07%	0.19%	0.08%	0.52%
35	0.08%	0.34%	0.09%	0.90%
40	0.11%	0.49%	0.12%	1.30%
45	0.16%	0.73%	0.18%	1.92%
50	0.47%	1.16%	0.53%	3.06%
55	0.73%	1.96%	0.82%	5.18%
60	0.83%	2.82%	0.94%	7.47%
Ref	105 x 0.75	90 x 0.85	105 x 0.85	90 x 2.25

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. This assumption accounts for potential dependent children/dependent parent death benefits. No other assumption is made for surviving children/dependent parents. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	End of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year beginning the day after the valuation date.
Decrement Timing:	Decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date of decrement.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
Longevity in AFC:	Longevity payments included in the computation of Average Final Compensation were assumed to increase age and service costs by 4% and disability and death-in-service costs by 2% for the June 30, 2013 TPL. For calculation of the June 30, 2014 TPL, longevity payments were included directly in the AFC data provided by the System. No further adjustment was included.
Unused Sick Leave Payout:	The normal cost was increased by 1.0% of payroll to account for the inclusion of a percentage of unused sick leave banks in the determination of AFC for the June 30, 2013 TPL. For calculation of the June 30, 2014 TPL, sick leave banks as of June 30, 2014 were included data provided by the System. No further adjustment was included.
Frozen Benefit Estimate:	Reported AFC as of June 30, 2014 was adjusted to include 25% of unused sick leave (to a maximum of 25 days per year of service) plus a load of 6% for data consistency with sample actual computations.
Administrative Expense Load:	Administrative expenses were assumed to be 3.00% of covered payroll
Miscellaneous Loads:	Normal retirement accrued liability (excluding DROP members) was increased by 3% (June 30, 2013 TPL) and 0% (June 30, 2014 TPL) for service purchases. Active accrued liability (excluding DROP members) was increased by 1% to approximate the effect of missing or incomplete data.
Post-Retirement COLA:	Active members are assumed to receive a 1.9% COLA rather than 2.25% because the annuity portion is not subject to the COLA. Post retirement increases for retired members were based on the plan in effect at retirement. For the pre-69 plan members, future COLA's are assumed to be the same as wage inflation for active members. The COLA rate is prorated by the ratio of COLA eligible service to total service at retirement.

AFC Period:	1-year AFC period was used for the June 30, 2013 TPL. AFC data provided by the System was used for the June 30, 2014 TPL.
Disability Change Age:	The duty disability benefit is assumed to change at normal retirement age.
DROP Assumption:	Members are assumed to retire based on the assumed rates of retirement. Members retiring after first eligibility were assumed to DROP upon the later of first eligibility and 5 years prior to retirement. Employer contributions are assumed to be made on DROP payroll. DROP account balances are assumed to grow at 8% per year.
Workers Compensation Offset:	No Workers compensation offsets are assumed for duty disability benefits.
DROP Account:	DROP account balances are not reported and not included in the net plan position. No liability is included for DROP account balances.
Class Codes:	For valuation purposes, members are categorized as DPOA, DFFA or LSA based on class codes provided by the retirement system and are primarily used in the valuation to determine normal retirement eligibility (20 & Out versus 25 & Out). Therefore, counts in the valuation may not represent actual membership in the respective associations.

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 8th Amended Plan of Adjustment (POA). Subsequent employer contributions were determined by a closed 30-year level dollar amortization of any unfunded actuarial accrued liability, consistent with the 100% funded target by 2053 in the POA and State Law. 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 reduction of the COLA 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	\$ -	\$ -	\$ 4,623,931	\$ 109,676,069	\$ 114,300,000
2	-	-	4,123,914	14,176,086	18,300,000
3	-	-	3,660,371	14,639,629	18,300,000
4	-	-	3,196,970	15,103,030	18,300,000
5	-	-	2,691,530	15,608,470	18,300,000
6	-	-	2,179,354	16,120,646	18,300,000
7	-	-	1,726,484	16,573,516	18,300,000
8	-	-	1,360,302	16,939,698	18,300,000
9	-	-	1,068,725	17,231,275	18,300,000
10	-	-	823,604	138,978,390	139,801,994
11	-	-	621,488	138,978,390	139,599,878
12	-	-	468,776	138,978,390	139,447,166
13	-	-	348,337	138,978,390	139,326,727
14	-	-	245,864	138,978,390	139,224,254
15	-	-	161,449	138,978,390	139,139,839
16	-	-	101,982	138,978,390	139,080,372
17	-	-	61,465	138,978,390	139,039,855
18	-	-	33,657	138,978,390	139,012,047
19	-	-	16,096	138,978,390	138,994,486
20	-	-	6,541	138,978,390	138,984,931
21	-	-	2,717	138,978,390	138,981,107
22	-	-	765	138,978,390	138,979,155
23	-	-	-	138,978,390	138,978,390
24	-	-	-	138,978,390	138,978,390
25	-	-	-	138,978,390	138,978,390
26	-	-	-	138,978,390	138,978,390
27	-	-	-	138,978,390	138,978,390
28	-	-	-	138,978,390	138,978,390
29	-	-	-	138,978,390	138,978,390
30	-	-	-	138,978,390	138,978,390
31	-	-	-	138,978,390	138,978,390
32	-	-	-	138,978,390	138,978,390
33	-	-	-	138,978,390	138,978,390
34	-	-	-	138,978,390	138,978,390
35	-	-	-	138,978,390	138,978,390
36	-	-	-	138,978,390	138,978,390
37	-	-	-	138,978,390	138,978,390
38	-	-	-	138,978,390	138,978,390
39	-	-	-	138,978,390	138,978,390
40	-	-	-	-	-
41	-	-	-	-	-
42	-	-	-	-	-
43	-	-	-	-	-
44	-	-	-	-	-
45	-	-	-	-	-
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-
49	-	-	-	-	-
50	-	-	-	-	-

Expenses assumed to be paid by employer.

**SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION
END OF YEAR**

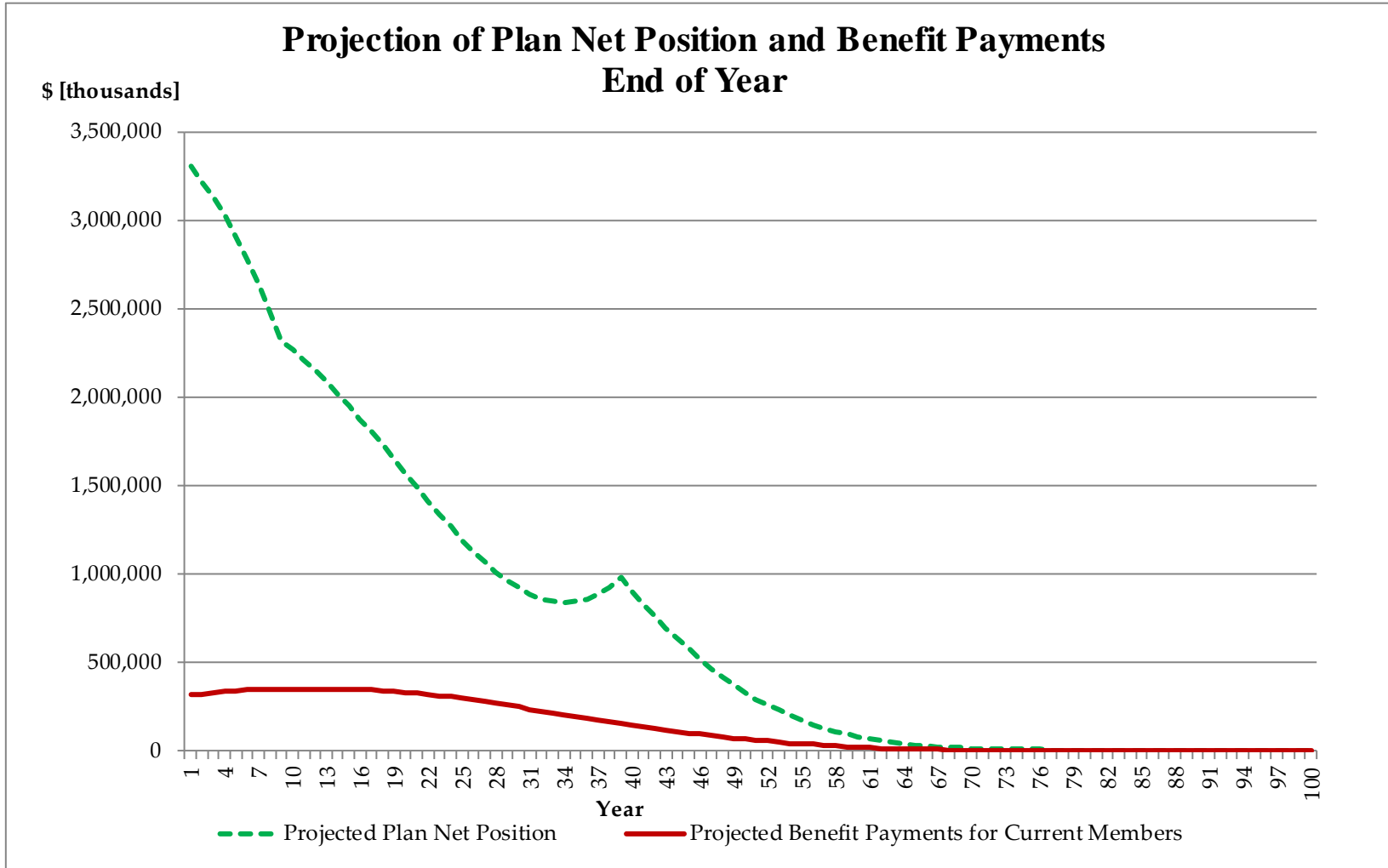
Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.20%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 3,276,203,299	\$ 114,300,000	\$ 314,935,103	\$ 4,623,931	\$ 228,625,737	\$ 3,299,570,002
2	3,299,570,002	18,300,000	320,246,572	4,123,914	226,742,002	3,220,241,518
3	3,220,241,518	18,300,000	325,395,963	3,660,371	220,864,593	3,130,349,777
4	3,130,349,777	18,300,000	333,114,368	3,196,970	214,135,746	3,026,474,186
5	3,026,474,186	18,300,000	340,346,002	2,691,530	206,418,769	2,908,155,423
6	2,908,155,423	18,300,000	344,282,783	2,179,354	197,778,675	2,777,771,962
7	2,777,771,962	18,300,000	346,551,050	1,726,484	188,326,848	2,636,121,276
8	2,636,121,276	18,300,000	347,717,671	1,360,302	178,099,683	2,483,442,985
9	2,483,442,985	18,300,000	349,223,420	1,068,725	167,063,896	2,318,514,736
10	2,318,514,736	139,801,994	350,662,827	823,604	159,444,866	2,266,275,165
11	2,266,275,165	139,599,878	350,786,384	621,488	155,679,246	2,210,146,416
12	2,210,146,416	139,447,166	350,396,489	468,776	151,651,769	2,150,380,086
13	2,150,380,086	139,326,727	349,738,195	348,337	147,371,880	2,086,992,161
14	2,086,992,161	139,224,254	348,790,765	245,864	142,841,464	2,020,021,249
15	2,020,021,249	139,139,839	347,188,147	161,449	138,076,250	1,949,887,742
16	1,949,887,742	139,080,372	344,849,450	101,982	133,109,367	1,877,126,048
17	1,877,126,048	139,039,855	341,930,411	61,465	127,973,784	1,802,147,811
18	1,802,147,811	139,012,047	338,400,705	33,657	122,700,212	1,725,425,708
19	1,725,425,708	138,994,486	334,209,876	16,096	117,324,468	1,647,518,689
20	1,647,518,689	138,984,931	329,330,295	6,541	111,887,775	1,569,054,559
21	1,569,054,559	138,981,107	323,784,368	2,717	106,434,541	1,490,683,121
22	1,490,683,121	138,979,155	317,586,591	765	101,011,040	1,413,085,959
23	1,413,085,959	138,978,390	310,634,354	-	95,669,975	1,337,099,970
24	1,337,099,970	138,978,390	303,006,167	-	90,468,825	1,263,541,018
25	1,263,541,018	138,978,390	294,786,791	-	85,463,336	1,193,195,953
26	1,193,195,953	138,978,390	285,973,812	-	80,710,244	1,126,910,774
27	1,126,910,774	138,978,390	276,658,471	-	76,267,235	1,065,497,928
28	1,065,497,928	138,978,390	266,869,711	-	72,191,781	1,009,798,388
29	1,009,798,388	138,978,390	256,702,883	-	68,541,059	960,614,954
30	960,614,954	138,978,390	246,224,715	-	65,370,510	918,739,138
31	918,739,138	138,978,390	235,551,140	-	62,733,022	884,899,410
32	884,899,410	138,978,390	224,775,506	-	60,677,742	859,780,036
33	859,780,036	138,978,390	213,976,166	-	59,251,167	844,033,426
34	844,033,426	138,978,390	203,220,140	-	58,497,898	838,289,574
35	838,289,574	138,978,390	192,581,148	-	58,460,688	843,147,504
36	843,147,504	138,978,390	182,129,519	-	59,180,178	859,176,553
37	859,176,553	138,978,390	171,902,205	-	60,696,054	886,948,791
38	886,948,791	138,978,390	161,934,051	-	63,048,272	927,041,402
39	927,041,402	138,978,390	152,250,891	-	66,277,475	980,046,376
40	980,046,376	-	142,868,978	-	65,509,445	902,686,842
41	902,686,842	-	133,798,176	-	60,260,432	829,149,098
42	829,149,098	-	125,041,008	-	55,275,493	759,383,584
43	759,383,584	-	116,595,395	-	50,551,134	693,339,324
44	693,339,324	-	108,456,993	-	46,083,838	630,966,169
45	630,966,169	-	100,620,770	-	41,870,172	572,215,571
46	572,215,571	-	93,082,392	-	37,906,794	517,039,973
47	517,039,973	-	85,838,431	-	34,190,401	465,391,943
48	465,391,943	-	78,887,331	-	30,717,634	417,222,245
49	417,222,245	-	72,230,573	-	27,484,894	372,476,566
50	372,476,566	-	65,872,670	-	24,488,111	331,092,008

**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	\$ 3,276,203,299	\$ 314,935,103	\$ 314,935,103	\$ -	\$ 304,175,113	\$ -	\$ 304,175,113
2	3,299,570,002	320,246,572	320,246,572	-	288,530,888	-	288,530,888
3	3,220,241,518	325,395,963	325,395,963	-	273,479,764	-	273,479,764
4	3,130,349,777	333,114,368	333,114,368	-	261,162,981	-	261,162,981
5	3,026,474,186	340,346,002	340,346,002	-	248,911,017	-	248,911,017
6	2,908,155,423	344,282,783	344,282,783	-	234,878,890	-	234,878,890
7	2,777,771,962	346,551,050	346,551,050	-	220,546,979	-	220,546,979
8	2,636,121,276	347,717,671	347,717,671	-	206,426,701	-	206,426,701
9	2,483,442,985	349,223,420	349,223,420	-	193,396,089	-	193,396,089
10	2,318,514,736	350,662,827	350,662,827	-	181,150,388	-	181,150,388
11	2,266,275,165	350,786,384	350,786,384	-	169,043,113	-	169,043,113
12	2,210,146,416	350,396,489	350,396,489	-	157,514,201	-	157,514,201
13	2,150,380,086	349,738,195	349,738,195	-	146,658,840	-	146,658,840
14	2,086,992,161	348,790,765	348,790,765	-	136,438,010	-	136,438,010
15	2,020,021,249	347,188,147	347,188,147	-	126,689,465	-	126,689,465
16	1,949,887,742	344,849,450	344,849,450	-	117,384,395	-	117,384,395
17	1,877,126,048	341,930,411	341,930,411	-	108,573,483	-	108,573,483
18	1,802,147,811	338,400,705	338,400,705	-	100,235,720	-	100,235,720
19	1,725,425,708	334,209,876	334,209,876	-	92,345,503	-	92,345,503
20	1,647,518,689	329,330,295	329,330,295	-	84,885,472	-	84,885,472
21	1,569,054,559	323,784,368	323,784,368	-	77,850,746	-	77,850,746
22	1,490,683,121	317,586,591	317,586,591	-	71,231,858	-	71,231,858
23	1,413,085,959	310,634,354	310,634,354	-	64,993,034	-	64,993,034
24	1,337,099,970	303,006,167	303,006,167	-	59,139,005	-	59,139,005
25	1,263,541,018	294,786,791	294,786,791	-	53,670,517	-	53,670,517
26	1,193,195,953	285,973,812	285,973,812	-	48,569,009	-	48,569,009
27	1,126,910,774	276,658,471	276,658,471	-	43,831,079	-	43,831,079
28	1,065,497,928	266,869,711	266,869,711	-	39,440,525	-	39,440,525
29	1,009,798,388	256,702,883	256,702,883	-	35,389,902	-	35,389,902
30	960,614,954	246,224,715	246,224,715	-	31,665,436	-	31,665,436
31	918,739,138	235,551,140	235,551,140	-	28,258,185	-	28,258,185
32	884,899,410	224,775,506	224,775,506	-	25,154,358	-	25,154,358
33	859,780,036	213,976,166	213,976,166	-	22,337,516	-	22,337,516
34	844,033,426	203,220,140	203,220,140	-	19,789,801	-	19,789,801
35	838,289,574	192,581,148	192,581,148	-	17,494,183	-	17,494,183
36	843,147,504	182,129,519	182,129,519	-	15,433,537	-	15,433,537
37	859,176,553	171,902,205	171,902,205	-	13,588,508	-	13,588,508
38	886,948,791	161,934,051	161,934,051	-	11,940,808	-	11,940,808
39	927,041,402	152,250,891	152,250,891	-	10,472,747	-	10,472,747
40	980,046,376	142,868,978	142,868,978	-	9,167,352	-	9,167,352
41	902,686,842	133,798,176	133,798,176	-	8,008,688	-	8,008,688
42	829,149,098	125,041,008	125,041,008	-	6,981,824	-	6,981,824
43	759,383,584	116,595,395	116,595,395	-	6,072,996	-	6,072,996
44	693,339,324	108,456,993	108,456,993	-	5,269,682	-	5,269,682
45	630,966,169	100,620,770	100,620,770	-	4,560,576	-	4,560,576
46	572,215,571	93,082,392	93,082,392	-	3,935,544	-	3,935,544
47	517,039,973	85,838,431	85,838,431	-	3,385,511	-	3,385,511
48	465,391,943	78,887,331	78,887,331	-	2,902,385	-	2,902,385
49	417,222,245	72,230,573	72,230,573	-	2,478,985	-	2,478,985
50	372,476,566	65,872,670	65,872,670	-	2,108,936	-	2,108,936

**SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)
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)-.5}	(g)=(e)*vf ^{(a)-.5}	(h)=(c)/(1+sdr) ^{(a)-.5}
51	\$ 331,092,008	\$ 59,820,780	\$ 59,820,780	\$ -	\$ 1,786,551	\$ -	\$ 1,786,551
52	292,993,732	54,083,115	54,083,115	-	1,506,712	-	1,506,712
53	258,093,011	48,666,786	48,666,786	-	1,264,755	-	1,264,755
54	226,287,367	43,577,910	43,577,910	-	1,056,441	-	1,056,441
55	197,460,609	38,821,605	38,821,605	-	877,926	-	877,926
56	171,482,879	34,401,172	34,401,172	-	725,709	-	725,709
57	148,211,556	30,317,877	30,317,877	-	596,614	-	596,614
58	127,492,436	26,569,619	26,569,619	-	487,736	-	487,736
59	109,162,391	23,151,427	23,151,427	-	396,445	-	396,445
60	93,051,689	20,056,063	20,056,063	-	320,373	-	320,373
61	78,985,878	17,273,316	17,273,316	-	257,390	-	257,390
62	66,788,514	14,790,367	14,790,367	-	205,589	-	205,589
63	56,283,721	12,591,892	12,591,892	-	163,274	-	163,274
64	47,298,827	10,660,449	10,660,449	-	128,946	-	128,946
65	39,666,787	8,977,516	8,977,516	-	101,296	-	101,296
66	33,227,706	7,523,828	7,523,828	-	79,192	-	79,192
67	27,830,122	6,279,054	6,279,054	-	61,651	-	61,651
68	23,332,719	5,222,708	5,222,708	-	47,835	-	47,835
69	19,605,217	4,334,631	4,334,631	-	37,035	-	37,035
70	16,528,827	3,594,898	3,594,898	-	28,652	-	28,652
71	13,996,837	2,984,055	2,984,055	-	22,186	-	22,186
72	11,914,995	2,483,557	2,483,557	-	17,225	-	17,225
73	10,201,464	2,076,104	2,076,104	-	13,432	-	13,432
74	8,786,425	1,745,819	1,745,819	-	10,536	-	10,536
75	7,611,471	1,478,525	1,478,525	-	8,324	-	8,324
76	6,628,670	1,261,796	1,261,796	-	6,626	-	6,626
77	5,799,503	1,085,166	1,085,166	-	5,316	-	5,316
78	5,093,514	940,167	940,167	-	4,296	-	4,296
79	4,486,823	819,976	819,976	-	3,496	-	3,496
80	3,960,892	719,238	719,238	-	2,860	-	2,860
81	3,501,396	633,914	633,914	-	2,352	-	2,352
82	3,097,158	561,015	561,015	-	1,941	-	1,941
83	2,739,293	498,351	498,351	-	1,609	-	1,609
84	2,420,542	444,199	444,199	-	1,338	-	1,338
85	2,134,909	397,149	397,149	-	1,116	-	1,116
86	1,877,424	355,901	355,901	-	933	-	933
87	1,644,108	319,384	319,384	-	781	-	781
88	1,431,802	286,681	286,681	-	654	-	654
89	1,238,069	257,022	257,022	-	547	-	547
90	1,061,097	229,874	229,874	-	456	-	456
91	899,490	204,832	204,832	-	379	-	379
92	752,176	181,582	181,582	-	314	-	314
93	618,327	159,975	159,975	-	258	-	258
94	497,213	139,943	139,943	-	210	-	210
95	388,119	121,363	121,363	-	170	-	170
96	290,408	104,155	104,155	-	136	-	136
97	203,478	88,348	88,348	-	108	-	108
98	126,655	74,032	74,032	-	84	-	84
99	59,123	61,215	61,215	-	65	-	65
100	0	-	-	-	-	-	-
Totals					\$ 4,407,788,110	\$ -	\$ 4,407,788,110



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 8.00%; the municipal bond rate is 4.27% as of June 30, 2013; and the resulting Single Discount Rate is 8.00%.

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 of a closed, level dollar 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	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions#	Projected UAL Contributions	Projected Total Contributions
1	\$ 6,865,277	\$ 28,102,431	\$ 4,269,561	\$ 28,250,432	\$ 67,487,701
2	6,234,718	24,789,567	3,892,198	38,374,231	73,290,714
3	5,870,677	22,223,853	3,702,206	49,829,940	81,626,676
4	5,491,122	20,867,696	3,500,443	62,790,458	92,649,720
5	5,068,551	19,210,822	3,249,980	65,207,418	92,736,771
6	4,500,619	16,945,359	2,897,961	72,120,347	96,464,285
7	3,718,035	14,479,577	2,486,925	73,104,220	93,788,756
8	2,931,670	12,243,772	2,098,634	76,028,388	93,302,465
9	2,385,654	10,208,572	1,764,392	79,069,524	93,428,142
10	1,995,641	8,426,719	1,480,318	82,232,305	94,134,983
11	1,677,432	6,780,043	1,218,701	85,521,597	95,197,774
12	1,384,238	5,354,058	985,457	88,942,461	96,666,213
13	1,090,121	4,350,306	806,924	92,500,159	98,747,510
14	879,013	3,504,572	658,872	96,200,166	101,242,623
15	681,943	2,638,365	504,678	100,048,172	103,873,159
16	431,180	1,891,214	356,326	104,050,099	106,728,819
17	218,057	1,340,200	241,278	108,212,103	110,011,638
18	112,945	882,392	155,170	112,540,587	113,691,094
19	47,031	529,706	90,340	117,042,211	117,709,288
20	114	292,713	46,184	121,723,899	122,062,910
21	-	129,870	20,648	126,592,855	126,743,373
22	-	57,616	9,211	131,656,570	131,723,396
23	-	17,257	2,771	136,922,832	136,942,860
24	-	-	-	142,399,746	142,399,746
25	-	-	-	148,095,735	148,095,735
26	-	-	-	154,019,565	154,019,565
27	-	-	-	160,180,347	160,180,347
28	-	-	-	166,587,561	166,587,561
29	-	-	-	-	-
30	-	-	-	-	-
31	-	-	-	-	-
32	-	-	-	-	-
33	-	-	-	-	-
34	-	-	-	-	-
35	-	-	-	-	-
36	-	-	-	-	-
37	-	-	-	-	-
38	-	-	-	-	-
39	-	-	-	-	-
40	-	-	-	-	-
41	-	-	-	-	-
42	-	-	-	-	-
43	-	-	-	-	-
44	-	-	-	-	-
45	-	-	-	-	-
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-
49	-	-	-	-	-
50	-	-	-	-	-

Expenses assumed to be paid by employer.

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 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 3,034,573,064	\$ 67,487,701	\$ 304,769,154	\$ 4,269,561	\$ 233,289,682	\$ 3,026,311,733
2	3,026,311,733	73,290,714	311,120,643	3,892,198	232,622,062	3,017,211,668
3	3,017,211,668	81,626,676	318,240,501	3,702,206	231,949,219	3,008,844,856
4	3,008,844,856	92,649,720	325,593,189	3,500,443	231,431,779	3,003,832,723
5	3,003,832,723	92,736,771	335,108,812	3,249,980	230,670,747	2,988,881,448
6	2,988,881,448	96,464,285	344,826,787	2,897,961	229,253,446	2,966,874,432
7	2,966,874,432	93,788,756	352,759,714	2,486,925	227,092,835	2,932,509,385
8	2,932,509,385	93,302,465	358,949,841	2,098,634	224,096,945	2,888,860,320
9	2,888,860,320	93,428,142	363,255,139	1,764,392	220,454,164	2,837,723,095
10	2,837,723,095	94,134,983	367,515,001	1,480,318	216,234,943	2,779,097,702
11	2,779,097,702	95,197,774	371,520,133	1,218,701	211,439,746	2,712,996,388
12	2,712,996,388	96,666,213	373,146,596	985,457	206,154,592	2,641,685,140
13	2,641,685,140	98,747,510	373,371,679	806,924	200,529,516	2,566,783,563
14	2,566,783,563	101,242,623	373,149,842	658,872	194,649,785	2,488,867,258
15	2,488,867,258	103,873,159	372,774,960	504,678	188,540,434	2,408,001,212
16	2,408,001,212	106,728,819	370,895,951	356,326	182,262,714	2,325,740,468
17	2,325,740,468	110,011,638	367,355,068	241,278	175,954,065	2,244,109,825
18	2,244,109,825	113,691,094	362,868,803	155,170	169,747,336	2,164,524,282
19	2,164,524,282	117,709,288	357,269,705	90,340	163,760,327	2,088,633,852
20	2,088,633,852	122,062,910	350,690,618	46,184	158,119,721	2,018,079,680
21	2,018,079,680	126,743,373	342,904,502	20,648	152,965,459	1,954,863,362
22	1,954,863,362	131,723,396	334,388,812	9,211	148,438,045	1,900,626,781
23	1,900,626,781	136,942,860	325,203,260	2,771	144,664,487	1,857,028,098
24	1,857,028,098	142,399,746	315,087,370	-	141,787,629	1,826,128,102
25	1,826,128,102	148,095,735	304,435,342	-	139,956,970	1,809,745,466
26	1,809,745,466	154,019,565	293,289,835	-	139,315,997	1,809,791,192
27	1,809,791,192	160,180,347	281,697,977	-	140,016,100	1,828,289,662
28	1,828,289,662	166,587,561	269,793,230	-	142,214,365	1,867,298,359
29	1,867,298,359	-	257,633,224	-	139,276,792	1,748,941,927
30	1,748,941,927	-	245,347,206	-	130,290,264	1,633,884,985
31	1,633,884,985	-	233,002,676	-	121,569,991	1,522,452,301
32	1,522,452,301	-	220,702,662	-	113,137,912	1,414,887,550
33	1,414,887,550	-	208,534,726	-	105,010,086	1,311,362,910
34	1,311,362,910	-	196,565,605	-	97,197,669	1,211,994,974
35	1,211,994,974	-	184,782,803	-	89,710,479	1,116,922,650
36	1,116,922,650	-	173,260,975	-	82,556,700	1,026,218,375
37	1,026,218,375	-	162,081,769	-	75,738,924	939,875,529
38	939,875,529	-	151,199,869	-	69,258,398	857,934,059
39	857,934,059	-	140,626,297	-	63,117,887	780,425,649
40	780,425,649	-	130,376,236	-	57,319,329	707,368,742
41	707,368,742	-	120,462,302	-	51,863,705	638,770,145
42	638,770,145	-	110,914,256	-	46,750,392	574,606,281
43	574,606,281	-	101,751,967	-	41,976,723	514,831,037
44	514,831,037	-	92,987,332	-	37,538,545	459,382,249
45	459,382,249	-	84,634,623	-	33,430,323	408,177,949
46	408,177,949	-	76,707,401	-	29,644,967	361,115,516
47	361,115,516	-	69,217,121	-	26,173,820	318,072,215
48	318,072,215	-	62,172,938	-	23,006,703	278,905,980
49	278,905,980	-	55,581,940	-	20,131,972	243,456,012
50	243,456,012	-	49,449,472	-	17,536,554	211,543,094

SINGLE DISCOUNT RATE DEVELOPMENT

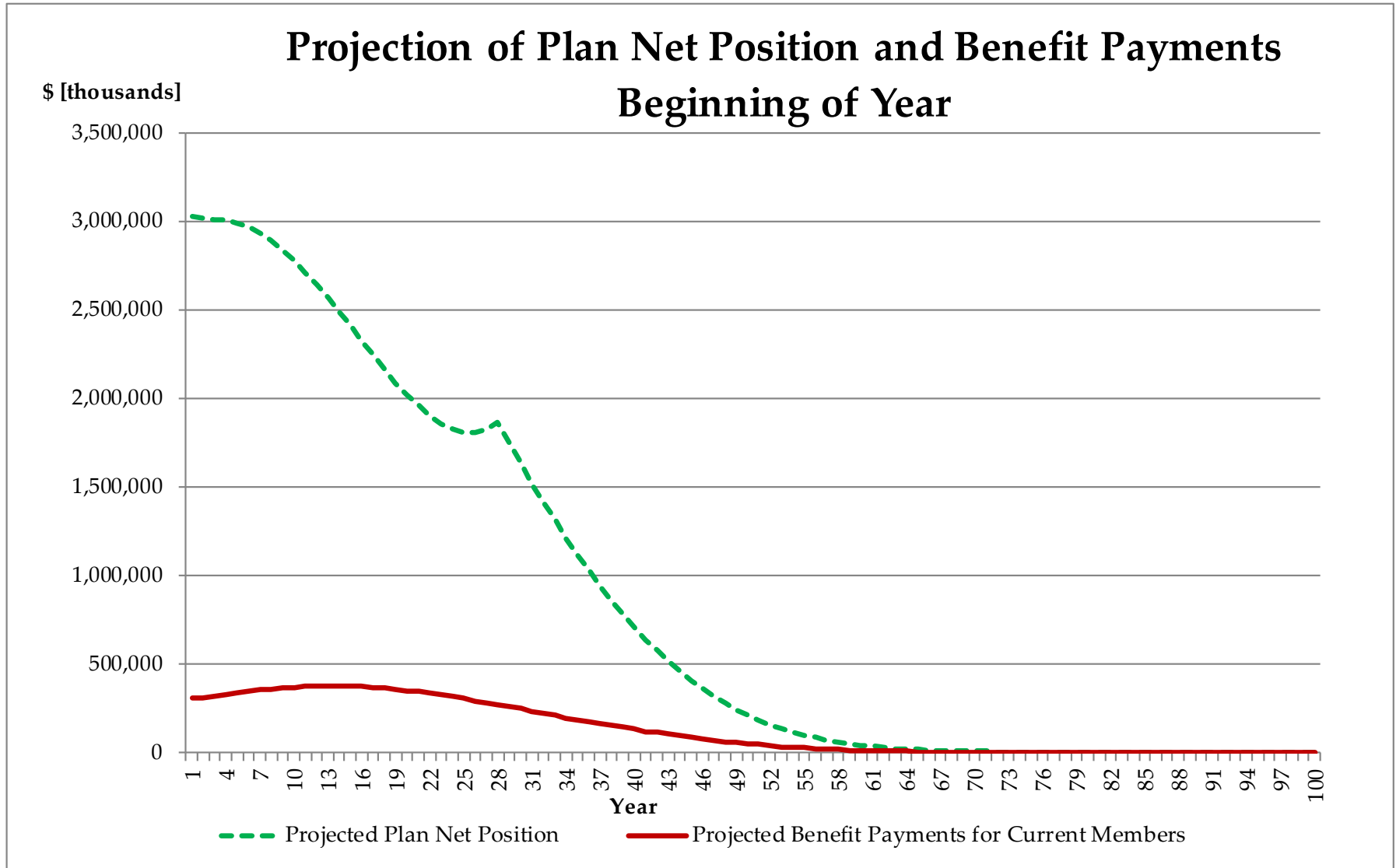
PRESENT VALUES OF PROJECTED BENEFITS BEGINNING OF YEAR

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	\$ 3,034,573,064	\$ 304,769,154	\$ 304,769,154	\$ -	\$ 293,264,255	\$ -	\$ 293,264,255
2	3,026,311,733	311,120,643	311,120,643	-	277,199,980	-	277,199,980
3	3,017,211,668	318,240,501	318,240,501	-	262,540,351	-	262,540,351
4	3,008,844,856	325,593,189	325,593,189	-	248,709,381	-	248,709,381
5	3,003,832,723	335,108,812	335,108,812	-	237,016,701	-	237,016,701
6	2,988,881,448	344,826,787	344,826,787	-	225,824,127	-	225,824,127
7	2,966,874,432	352,759,714	352,759,714	-	213,906,790	-	213,906,790
8	2,932,509,385	358,949,841	358,949,841	-	201,537,376	-	201,537,376
9	2,888,860,320	363,255,139	363,255,139	-	188,846,894	-	188,846,894
10	2,837,723,095	367,515,001	367,515,001	-	176,908,783	-	176,908,783
11	2,779,097,702	371,520,133	371,520,133	-	165,589,548	-	165,589,548
12	2,712,996,388	373,146,596	373,146,596	-	153,994,885	-	153,994,885
13	2,641,685,140	373,371,679	373,371,679	-	142,673,866	-	142,673,866
14	2,566,783,563	373,149,842	373,149,842	-	132,026,942	-	132,026,942
15	2,488,867,258	372,774,960	372,774,960	-	122,124,353	-	122,124,353
16	2,408,001,212	370,895,951	370,895,951	-	112,508,124	-	112,508,124
17	2,325,740,468	367,355,068	367,355,068	-	103,179,655	-	103,179,655
18	2,244,109,825	362,868,803	362,868,803	-	94,369,990	-	94,369,990
19	2,164,524,282	357,269,705	357,269,705	-	86,031,346	-	86,031,346
20	2,088,633,852	350,690,618	350,690,618	-	78,191,747	-	78,191,747
21	2,018,079,680	342,904,502	342,904,502	-	70,792,329	-	70,792,329
22	1,954,863,362	334,388,812	334,388,812	-	63,920,622	-	63,920,622
23	1,900,626,781	325,203,260	325,203,260	-	57,559,948	-	57,559,948
24	1,857,028,098	315,087,370	315,087,370	-	51,638,396	-	51,638,396
25	1,826,128,102	304,435,342	304,435,342	-	46,196,924	-	46,196,924
26	1,809,745,466	293,289,835	293,289,835	-	41,208,921	-	41,208,921
27	1,809,791,192	281,697,977	281,697,977	-	36,648,332	-	36,648,332
28	1,828,289,662	269,793,230	269,793,230	-	32,499,582	-	32,499,582
29	1,867,298,359	257,633,224	257,633,224	-	28,735,902	-	28,735,902
30	1,748,941,927	245,347,206	245,347,206	-	25,338,467	-	25,338,467
31	1,633,884,985	233,002,676	233,002,676	-	22,281,087	-	22,281,087
32	1,522,452,301	220,702,662	220,702,662	-	19,541,562	-	19,541,562
33	1,414,887,550	208,534,726	208,534,726	-	17,096,465	-	17,096,465
34	1,311,362,910	196,565,605	196,565,605	-	14,921,474	-	14,921,474
35	1,211,994,974	184,782,803	184,782,803	-	12,987,991	-	12,987,991
36	1,116,922,650	173,260,975	173,260,975	-	11,276,061	-	11,276,061
37	1,026,218,375	162,081,769	162,081,769	-	9,767,133	-	9,767,133
38	939,875,529	151,199,869	151,199,869	-	8,436,466	-	8,436,466
39	857,934,059	140,626,297	140,626,297	-	7,265,273	-	7,265,273
40	780,425,649	130,376,236	130,376,236	-	6,236,775	-	6,236,775
41	707,368,742	120,462,302	120,462,302	-	5,335,671	-	5,335,671
42	638,770,145	110,914,256	110,914,256	-	4,548,849	-	4,548,849
43	574,606,281	101,751,967	101,751,967	-	3,863,965	-	3,863,965
44	514,831,037	92,987,332	92,987,332	-	3,269,568	-	3,269,568
45	459,382,249	84,634,623	84,634,623	-	2,755,440	-	2,755,440
46	408,177,949	76,707,401	76,707,401	-	2,312,365	-	2,312,365
47	361,115,516	69,217,121	69,217,121	-	1,932,008	-	1,932,008
48	318,072,215	62,172,938	62,172,938	-	1,606,841	-	1,606,841
49	278,905,980	55,581,940	55,581,940	-	1,330,092	-	1,330,092
50	243,456,012	49,449,472	49,449,472	-	1,095,685	-	1,095,685

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	\$ 211,543,094	\$ 43,776,959	\$ 43,776,959	\$ -	\$ 898,144	\$ -	\$ 898,144
52	182,972,191	38,560,812	38,560,812	-	732,526	-	732,526
53	157,536,395	33,791,366	33,791,366	-	594,372	-	594,372
54	135,022,288	29,456,381	29,456,381	-	479,743	-	479,743
55	115,212,103	25,541,868	25,541,868	-	385,175	-	385,175
56	97,885,183	22,029,654	22,029,654	-	307,602	-	307,602
57	82,822,110	18,897,878	18,897,878	-	244,327	-	244,327
58	69,808,627	16,126,511	16,126,511	-	193,052	-	193,052
59	58,634,156	13,690,887	13,690,887	-	151,755	-	151,755
60	49,096,901	11,564,162	11,564,162	-	118,686	-	118,686
61	41,006,824	9,723,157	9,723,157	-	92,400	-	92,400
62	34,182,769	8,140,939	8,140,939	-	71,633	-	71,633
63	28,457,078	6,790,785	6,790,785	-	55,327	-	55,327
64	23,676,452	5,648,222	5,648,222	-	42,609	-	42,609
65	19,700,764	4,687,043	4,687,043	-	32,739	-	32,739
66	16,405,907	3,882,497	3,882,497	-	25,110	-	25,110
67	13,683,570	3,213,309	3,213,309	-	19,243	-	19,243
68	11,438,887	2,659,130	2,659,130	-	14,745	-	14,745
69	9,590,549	2,202,541	2,202,541	-	11,308	-	11,308
70	8,068,846	1,827,584	1,827,584	-	8,688	-	8,688
71	6,815,072	1,521,948	1,521,948	-	6,699	-	6,699
72	5,778,623	1,271,935	1,271,935	-	5,184	-	5,184
73	4,919,079	1,067,446	1,067,446	-	4,028	-	4,028
74	4,203,283	900,642	900,642	-	3,147	-	3,147
75	3,603,571	764,228	764,228	-	2,473	-	2,473
76	3,097,648	652,314	652,314	-	1,954	-	1,954
77	2,667,555	559,999	559,999	-	1,553	-	1,553
78	2,298,991	483,382	483,382	-	1,242	-	1,242
79	1,980,565	419,242	419,242	-	997	-	997
80	1,703,321	364,792	364,792	-	803	-	803
81	1,460,484	318,103	318,103	-	649	-	649
82	1,246,740	277,592	277,592	-	524	-	524
83	1,057,998	241,644	241,644	-	422	-	422
84	891,514	209,696	209,696	-	339	-	339
85	744,912	180,923	180,923	-	271	-	271
86	616,484	154,833	154,833	-	215	-	215
87	504,896	131,427	131,427	-	169	-	169
88	408,704	110,434	110,434	-	131	-	131
89	326,634	91,686	91,686	-	101	-	101
90	257,482	75,120	75,120	-	77	-	77
91	200,014	60,741	60,741	-	57	-	57
92	152,891	48,428	48,428	-	42	-	42
93	114,795	38,005	38,005	-	31	-	31
94	84,483	29,410	29,410	-	22	-	22
95	60,678	22,323	22,323	-	15	-	15
96	42,334	16,664	16,664	-	11	-	11
97	28,403	12,262	12,262	-	7	-	7
98	17,932	8,840	8,840	-	5	-	5
99	10,180	6,210	6,210	-	3	-	3
100	4,541	4,313	4,719	-	2	-	2
Totals	\$ 4,133,355,645	\$ -	\$ -	\$ -	\$ 4,133,355,645	\$ -	\$ 4,133,355,645



SECTION H
GLOSSARY OF TERMS

GLOSSARY OF TERMS

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

GLOSSARY OF TERMS

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

GLOSSARY OF TERMS

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-employer Contribution Entities</i>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. 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 20, 2015

Mr. David Cetlinski
Executive Secretary
The Police and Fire Retirement System of the
City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, MI 48226-3534

Dear Dave:

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

Sincerely,



Kenneth G. Alberts

KGA:bd
Enclosure

cc: Cynthia Thomas, City of Detroit Retirement Systems
David T. Kausch, GRS
Judith A. Kermans, GRS
Brian B. Murphy, GRS