GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

THE GENERAL RETIREMENT SYSTEM OF THE CITY OF DETROIT

ANNUAL ACTUARIAL VALUATION OF COMPONENT II

JUNE 30, 2014

GRS

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October 27, 2015

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

Dear Board Members:

The City of Detroit filed for bankruptcy on July 18, 2013. A final Plan of Adjustment ("POA") was confirmed on November 7, 2014 and the official exit from bankruptcy was on December 10, 2014. In connection with the POA, very significant changes were made to the benefits that the General Retirement System provides and to the contributions that it will receive. In particular, the benefits provided by the Retirement System were divided into two separate plans, referred to as "Component I" and "Component II." The benefits provided in each component are effective July 1, 2014 and are described in detail in Emergency Manager Order No. 44, dated December 8, 2014. In very general terms, Component I provides benefits for service rendered on and after July 1, 2014 and Component II provides benefits for service rendered prior to July 1, 2014.

This report provides key results from the **76th Annual Actuarial Valuation** of the annuity and pension liabilities of the General Retirement System of the City of Detroit. The date of the valuation was **June 30, 2014.** The results provided herein relate solely to the **Component II** benefits. Component I benefits will be the subject of a separate report. The purposes of the valuation are to measure the funding progress of Component II in accordance with the terms of the POA and to provide actuarially determined contribution amounts, given POA conditions and assumptions for Fiscal Year 2016 for Component II for comparison with the contribution amounts provided in the POA. The results of the valuation are not applicable for other purposes. In particular, the information provided in this report is not suitable for financial reporting in connection with GASB Statement No. 67. Such information was provided in a separate report. Information regarding potential benefit restoration as allowed for in the POA will also be provided in a separate report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The valuation was based upon records maintained and furnished by the Retirement System staff concerning active members, retirees and beneficiaries, and financial accounts as of the valuation date. Data was checked for year-to-year consistency, but was not otherwise audited by the actuary. We are not responsible for the completeness or accuracy of the data. Certain necessary data was not available in time to produce the results in this report and it was necessary for us to use approximations. Please see related discussion in the Comments section of this report.

The assumptions used in the valuations concerning future experience are summarized in Section D of this report. Except for the assumed rate of investment return, the actuarial assumptions used for the valuation are set by the Board based upon advice of the actuary and other parties. The assumed rate of investment return was set to 6.75% in the POA and is therefore a "prescribed assumption set by another party" as discussed in Actuarial Standard of Practice No. 4. In our judgement, all of the actuarial assumptions used for the valuation are reasonable for purposes of the measurement.

This report has been prepared by actuaries who have substantial experience valuing public sector retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with Actuarial Standards of Practice promulgated 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.

This report does not evaluate the plan sponsor's ability or willingness to make contributions to the Retirement System. In particular, given the funded level of Component II, plan sponsor contributions are critical if further benefit reductions are to be avoided. Indeed the employer contributions set forth in the POA are expected to lead to a decrease in the funded status over the next 8 years (as contemplated by the POA); even if all assumptions are met.

This report replaces our draft report dated September 4, 2015 and reflects additional information regarding the allocation of a portion of the POA mandated DSWD contribution, as instructed by the System and its general counsel.

Respectfully submitted,

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SECTION A

VALUATION RESULTS

VALUATION RESULTS

The expected contributions for FY 2015 and beyond are provided in the POA and are shown below.

Contribution Source
($ millions)

Fiscal Year	For DWSD Liabilities: DWSD	For DWSD Liabilities: Transfers	For Other Liabilities: UTGO	For Other Liabilities: State	For Other Liabilities: DIA	For Other Liabilities: Other	For Other Liabilities: Transfers from DWSD	Total
2015	$ 65.4	$ (22.5)	$ 4.4	$ 98.8	$ 5.0	$ 14.6	$ 22.5	$ 188.2
2016	45.4	(2.5)	4.0	-	5.0	22.5	2.5	76.9
2017	45.4	(2.5)	4.0	-	5.0	22.5	2.5	76.9
2018	45.4	(2.5)	3.9	-	5.0	22.5	2.5	76.8
2019	45.4	(2.5)	3.7	-	5.0	22.5	2.5	76.6
2020	45.4	(2.5)	3.7	-	5.0	2.5	2.5	56.6
2021	45.4	(2.5)	3.6	-	5.0	2.5	2.5	56.5
2022	45.4	(2.5)	2.3	-	5.0	2.5	2.5	55.2
2023	45.4	(2.5)	2.0	-	5.0	2.5	2.5	54.9
Total	**$ 428.6**	**$ (42.5)**	**$ 31.6**	**$ 98.8**	**$ 45.0**	**$ 114.6**	**$ 42.5**	**$ 718.6**

We have assumed the contributions outlined in the POA will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards and, therefore, was not made.

In order to develop actuarial contribution rates in accordance with POA provisions and assumptions, we were instructed to allocate the above contributions to the various divisions. This was done by allocating DWSD transfer amounts to the General City division and remaining DWSD contributions to the DWSD division and allocating remaining contributions in accordance with unfunded liabilities of each remaining division. A different allocation procedure would produce different results. If a different allocation procedure should be used, please let us know.

The chart below shows this allocation.

	General	D.O.T.	Library	Subtotal	DWSD	Totals
	$ Thousands					
Unfunded Liabilities	$ 610,230	$ 217,114	$ 27,430	$ 854,774	$ 352,370	$ 1,207,144
% of Subtotal	71.4%	25.4%	3.2%	100.0%	N/A	
FY 2015 Contributions	$ 87,668	$ 31,191	$ 3,941	$ 122,800	$ 65,400	$ 188,200
Transfers	$ 22,500	$ -	$ -	$ 22,500	$ (22,500)	$ -
FY 2015 UAL Contributions	**$ 110,168**	**$ 31,191**	**$ 3,941**	**$ 145,300**	**$ 42,900**	**$ 188,200**

VALUATION RESULTS (CONTINUED)

Unfunded Actuarial Accrued Liability+

	($ millions)				
	General City	D.O.T.	DWSD	Library	System Total
UAAL* as of June 30, 2014	$ 610.2	$ 217.1	$ 352.4	$ 27.4	$ 1,207.1
Anticipated POA Contribution (EOY)	110.2	31.2	42.9	3.9	188.2
Anticipated Expenses@	-	-	-	-	-
Interest at 6.75%	41.2	14.7	23.8	1.9	81.5
Projected UAAL* as of June 30, 2015	$ 541.3	$ 200.6	$ 333.3	$ 25.3	$ 1,100.4
Anticipated POA Contributions for FY 2016	**24.7**	**8.2**	**42.9**	**1.0**	**76.9**
Estimated Employer Contributions for FY 2024 #	**$ 73.4**	**$ 28.1**	**$ 12.7**	**$ 3.6**	**$ 117.8**

Totals may not add due to rounding.

* *Unfunded Actuarial Accrued Liability*

@ *In accordance with Plan Document, the mandated 6.75% rate of return is net of investment and administrative expenses.*

\# *Assuming the POA contributions through 2023 and a 30-year level principal closed amortization thereafter. When determining the Fiscal Year 2024 illustrative amounts, only the total contributions and the DWSD contributions are stipulated in the POA. The remaining amounts were allocated to the other groups as described on page 1. A different allocation would result in different results by group.*

\+ *Because no service is being accrued in Component II, no normal cost contribution is needed.*

The POA contributions result in a defunding of the plan between now and June 30, 2023, which was contemplated by the POA. In fact, the anticipated POA contributions do not project benefit restoration even if all assumptions are met (including the POA mandated assumed rate of return of 6.75%). Also, the contributions only marginally exceed the amount of nominal interest that accrues on the UAAL. The Estimated Employer Contribution for FY 2024 is based on a projection of results assuming only the POA contributions are made and all future experience between the valuation date and FY 2024 is as assumed. Actual experience will result in changes to this estimate and the final result (from the June 30, 2023 actuarial valuation) could be materially different than shown above.

VALUATION RESULTS (CONTINUED)

At the request of the Board, in addition to the status valuation calculations on page 2, we illustrate what the funding requirements would be if the FY 2015 contributions were determined by an actuarial valuation.

In the chart below, we illustrate two alternate funding policies for FY 2016. The first policy is an illustration of funding the UAAL over the expected remaining active service life of this group. The second policy is similar to the Board's existing (pre-bankruptcy) policy, but slightly accelerated to prevent insolvency prior to the end of the funding period. The illustrations are intended to show that there are a broad range of possible policies, but are not intended to show a specific recommendation or a minimum (or maximum) level of contributions.

Funding Policy 1 is based on amortizing the UAAL over the average remaining service life of active members (7 years for DOT; 8 years for all other groups) using level dollar amortization.

Funding Policy 2 is based on amortizing the UAAL with level principal payments over a closed 30-year period plus interest. This method is also known as level principal declining interest amortization.

Illustrative Contribution Shortfall

	($ millions)				
	General City	D.O.T.	DWSD	Library	System Total
(1) Illustrative Contribution for FY 2016 (Funding Policy 1)	$ 89.8	$ 36.9	$ 55.3	$ 4.2	$ 186.1
(2) Illustrative Contribution for FY 2016 (Funding Policy 2)	54.6	20.2	33.6	2.6	111.0
(3) Actual Contributions for FY 2016 (POA)	24.7	8.2	42.9	1.0	76.9
Fiscal Year 2016 Shortfall - Funding Policy 1: (1) - (3)	$ 65.1	$ 28.7	$ 12.4	$ 3.2	$ 109.2
Fiscal Year 2016 Shortfall - Funding Policy 2: (2) - (3)	$ 29.9	$ 12.0	$ (9.3)	$ 1.6	$ 34.1

Recommendation: We recommend that additional contributions be made to the Component II Plan. Increasing contributions increases the benefit security of the members.

VALUATION RESULTS (CONTINUED)

Present Value	June 30, 2014
Accrued Pension Liabilities (Employer Financed)	
Retirees and beneficiaries	
Future pensions	$2,249,960,085
Mortality reserve	0
Total	2,249,960,085
Inactive members future deferred pensions	221,148,836
Active members	461,525,862
Total accrued pensions	2,932,634,783
Pension fund balances	1,649,943,355
Unfunded accrued pension liabilities	$1,282,691,428
Accrued Annuity Liabilities (Member Financed)	
Retirees and beneficiaries	
Future annuities	$ 115,773,089
Mortality reserve	0
Total	115,773,089
Member annuities & future refunds	267,783,724
Total accrued annuity liabilities	383,556,813
Annuity fund balances	365,264,524
Unfunded accrued annuity liabilities	$ 18,292,289
Annuity Claw-back Liability Reductions	
Retirees and beneficiaries	$ (80,190,596)
Inactive members	(3,585)
Active members	(13,645,339)
Total Reductions	$ (93,839,520)
Totals	
Actuarial Accrued Liabilities	**$3,222,352,076**
Accrued Assets	**2,015,207,879**
Unfunded Actuarial Accrued Liabilities	**$1,207,144,197**

VALUATION RESULTS (CONTINUED)

FUNDED RATIO - POA

		Defined Benefit	ASF	Total
A	Actuarial Accrued Liability	$2,968,213,691	$254,138,385	$3,222,352,076
B	Market Value of Assets	$1,761,069,494	$254,138,385	$2,015,207,879
C	Unfunded Actuarial Accrued Liability (A-B)	$1,207,144,197	$ 0	$1,207,144,197
D	Funded Ratio (B/A)	59.3%	100.0%	62.5%

The POA Liability amount above is an expected return-based measurement of the pension obligation. It is based upon the mandated 6.75% interest rate assumption (assumption prescribed by another party). It determines an amount that will be sufficient to provide benefits if the portfolio earns the expected 6.75% return on assets and all other assumptions are met. This measure is appropriate for assessing the need for or amount of future contributions if all assumptions are met. This measure is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation, in other words, of transferring the obligation to a third party in a market value type transaction.

FUNDED RATIO - SOLVENCY

		Defined Benefit	ASF	Total
A	Market-Based Liability	$4,092,388,130	$254,138,385	$4,092,388,130
B	Market Value of Assets	$1,761,069,494	$254,138,385	$2,015,207,879
C	Unfunded Actuarial Accrued Liability (A-B)	$2,077,180,251	$0	$2,077,180,251
D	Funded Ratio (B/A)	43.0%	100.0%	49.2%

The Solvency value is a market-based measurement of the pension obligation. It represents the amount the plan would need to invest in low risk securities to provide the benefits with greater certainty. For this purpose, the solvency liability is computed at 4.29% as of June 30, 2014, based on the long-term municipal bond rate ("State & local bonds" rate from Federal Reserve statistical release (H.15) as of June 28, 2014). We are not able to assess the credit quality of the plan sponsor and, as such, no adjustment has been made for the credit quality of the plan sponsor. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

The difference between the two measures illustrates the savings the sponsor anticipates by taking on the risk in a diversified portfolio.

COMMENTS

Experience

During the prior year this plan experienced significant changes in structure, methods and assumptions which greatly overshadow the impact of any gains or losses during the year due to experience in specific risk areas. We were able to isolate a few of the major risk areas for this purpose. For example, investment experience during the year ended June 30, 2014 was favorable. The rate of return measured on a market value basis was 15.2%. Also, there were 307 retirements versus 226 expected, leading to an actuarial loss on retirement experience.

Asset Issues

The current method of allocation of investment income between divisions (as provided by Retirement System staff) results in each division recognizing a rate of return that may differ from the fund, in total. This has led to changes in divisional contribution rates that were not completely uniform. We recommend that staff continue to review the allocation procedures.

The Annuity Reserves (ASF plus ARF) reported to us included what appears to be a substantial amount of interest on the ASF balances. However, the staff indicated that the Board adopted a 0% rate of interest for FY 2014. Based on instruction from the staff, we estimated the amount of the reported investment return that should have been reported and adjusted the reported reserves for the valuation accordingly. See page 11 for the estimated changes included in the reserves.

ASF Interest Credits

The ASF fund cannot be credited with more than 5.25% (or the total fund earnings if less). We understand that any future arbitrage that may result will be transferred to Component I assets (to the extent needed for funding Transition Liabilities) and, therefore, we did not model any arbitrage as part of this valuation.

Data Issues and Approximations

The data provided for this valuation did not reflect the plan freeze or the various cuts that were instituted in connection with the POA. Consequently, it was necessary for us to use approximations to estimate the frozen accrued benefits and the effect of certain claw-backs. While in our judgement the approximations are reasonable, an estimate of the potential range of error in those approximations was outside the scope of this study. It is important that complete data be provided as soon as possible to minimize the probability of an important decision being made based upon wrong information. We would be pleased to redo this valuation with revised data if such can be made available.

Changes in Assumptions and Methods

- The actuarial cost method was changed in conjunction with the benefit freeze. All frozen benefits are assumed to be fully accrued, and hence there is no normal cost. This is a form of the actuarial cost method referred to as the Unit Credit Cost Method.
- The mortality table was updated to RP-2014 with blue collar adjustment, set-forward 1 year in conjunction with a study of mortality among plan participants covering the years 2008-2013 and dated February 4, 2015. Generational mortality improvement was assumed based on MP-2014.
- Investment return was lowered to 6.75% per annum, as prescribed by the POA.
- Assets were set to the market value as of the valuation date (no smoothing).
- This valuation of Component II does not depend on price inflation or wage inflation assumptions. For the prior annual actuarial valuation, the price inflation assumption was 3.0% and the wage inflation assumption was 4.0% per year respectively. We recommend reviewing and updating these assumptions prior to completing a valuation of Component I benefits.

For purposes of restoration, the plan document specifically states that the 6.75% assumed rate of return is net of administrative and investment expenses. However, the references to the assumed rate of return in the plan document are silent on this point. We have been instructed by the System that the assumed rate of return of 6.75% is net of administrative and investment expenses for purposes of this valuation.

COMMENTS

Restoration

This valuation assumes no future restoration of Component II benefits (consistent with the expectation of the POA). Any future restoration will be reflected beginning in the next valuation after being granted.

DWSD (Water/Sewer) Projections

Based on this valuation, the DWSD (Water/Sewer) division is not expected to be fully funded by 2024. As a result, their contributions will continue in FY 2024 (see page 2 for estimated FY 2024 contributions).

Future Results

While FY 2015 investment performance has not yet been provided to us, most public plans (for which information is available) earned less than 5% on assets. If the Retirement System's experience is similar, this will result in downward pressure on the funded status and upward pressure on the FY 2024 contribution requirements over and above what is shown in this report.

The POA mandated contributions for FY 2016 and beyond are expected to defund the Retirement System, even if all assumptions are realized. In FY 2016, the POA mandated contributions marginally exceed interest on the projected UAAL. This defunding was contemplated in the POA.

Recommendation 1

We recommend that every potential action be taken to generate contributions to the Retirement System above and beyond those provided in the POA.

Recommendation 2

We recommend that a study be undertaken to develop a funding policy for FY 2024 and beyond. The increase in contributions that is expected at that time is so significant that it cannot be ignored until then (even though this is contemplated in the POA). All stakeholders should agree on the funding method well before that date comes. If not, there could be a significant risk of contribution defaults and/or benefit insecurity.

Recommendation 3

We recommend that the System compute frozen accrued benefits as soon as possible and report them to the Actuary for the June 30, 2015 valuation. If important decisions are to be made based on this valuation, we recommend further that the valuation be redone based upon actual computed frozen accrued benefits.

Conclusion

The POA contributions fall short of contributions that would result from either of the funding policies illustrated in this report. Given those contributions, and the fact that FY 2015 will likely show an investment loss, the funding status is expected to decline in the next valuation. The FY 2024 contribution is expected to be very high compared to City contributions in the immediately preceding years. Planning for the FY 2024 contribution level is very important.

LIABILITY BY DIVISION - POA

	General	D.O.T.	DWSD	Library	Totals
Accrued Pension Liabilities					
Retirees and beneficiaries	$1,285,573	$304,957	$597,357	$ 62,073	$2,249,960
Inactive members future deferred pensions	144,115	29,535	42,872	4,628	221,150
Active members	214,051	74,338	143,636	29,501	461,526
Total accrued pension liabilities	1,643,739	408,830	783,865	96,202	2,932,636
Pension fund balances	993,256	180,615	409,575	66,497	1,649,943
Unfunded accrued pension liabilities	650,483	228,215	374,290	29,705	1,282,693
Accrued Annuity Liabilities					
Retirees and beneficiaries	64,529	11,030	36,188	4,024	115,771
Members annuities & future refunds	98,558	63,933	92,538	12,756	267,785
Total accrued annuity liabilities	163,087	74,963	128,726	16,780	383,556
Annuity fund balances	153,424	72,796	122,748	16,295	365,263
Unfunded accrued annuity liabilities	9,663	2,167	5,978	485	18,293
Estimated Annuity Claw-back Liability Reductions					
Retirees and beneficiaries	(41,728)	(11,788)	(24,462)	(2,213)	(80,191)
Inactive members	(2)	0	(1)	0	(4)
Active members	(8,185)	(1,480)	(3,434)	(547)	(13,645)
Total Reductions	(49,915)	(13,268)	(27,897)	(2,760)	(93,840)
Totals					
Actuarial Accrued Liabilities	1,756,911	470,525	884,694	110,222	3,222,352
Accrued Assets	1,146,680	253,411	532,323	82,792	2,015,206
Funded Ratio	65.3%	53.9%	60.2%	75.1%	62.5%
Unfunded Actuarial Accrued Liabilities	**$ 610,231**	**$ 217,114**	**$ 352,371**	**$ 27,430**	**$ 1,207,146**

Totals may be off slightly due to rounding.

SECTION B

FUND ASSETS

STATEMENT OF PLAN ASSETS
(REPORTED ASSETS AT MARKET VALUE)

Market Value - June 30, 2014	
Cash & equivalents	$ 25,742,786
Short-Term Investments	74,423,479
Mortgage Securities	21,970,772
Other Securities	84,643,123
Receivables & accruals	26,564,201
Contributions receivable	-
Stocks	1,058,090,820
Bonds & government securities	116,409,457
Real estate	211,811,951
Private equity	322,419,977
Mortgages	99,652,517
Securities lending	30,949,483
Pooled investments	7,870,265
Capital assets	1,333,145
Accounts payable	(66,674,097)
Total Current Assets	**$ 2,015,207,879**

MARKET VALUE OF ASSETS

Reserve Accounts
(Market Value)

Funds	Fund Balances June 30, 2014
Annuity Savings	$ 267,783,724
Annuity Reserve	97,480,800
Pension Accumulation	(1,613,518,388)
Pension Reserve	2,349,780,743
Accrued Liability Fund Reserve	913,681,000
Total Fund Balances	**$ 2,015,207,879**

Revenues and Expenditures
(Market Value)

	Pension Funds	Annuity Funds	Total Funds
Market Value July 1, 2013	$1,596,743,036	$502,278,918	$2,099,021,954
Revenues			
Member contributions	0	10,241,761	10,241,761
Employer contributions	25,126,131	0	25,126,131
Investment income	279,553,216	10,236,391	289,789,607
Transfers	0	0	0
Total	$ 304,679,347	$ 20,478,152	$ 325,157,499
Expenditures			
Benefit payments	242,939,732	10,743,462	253,683,194
Refund of member contributions	0	144,050,613	144,050,613
Expenses	8,539,297	2,698,470	11,237,767
Total	$ 251,479,028	$157,492,546	$ 408,971,574
Market Value June 30, 2014	$1,649,943,355	$365,264,524	$2,015,207,879
Market Value Rate of Return	18.8%	2.4%	15.2%

ALLOCATION OF ASSETS USED FOR VALUATION BY RESERVE ACCOUNT AND DIVISION

	June 30, 2014 Asset Values Provided by Detroit	Estimated Interest Adjustments to Reflect 0% on ASF and 7.9% on ARF	Proposed June 30, 2014 Asset Values After Interest Transfers
Annuity Savings Fund			
General	$ 126,130,712.38	$ (25,308,395.48)	$ 100,822,316.90
D.O.T.	$ 79,901,708.84	$ (15,969,143.76)	$ 63,932,565.08
Water	$ 94,543,598.13	$ (18,795,539.67)	$ 75,748,058.46
Sewage	$ 20,983,855.64	$ (4,193,830.30)	$ 16,790,025.34
Housing	$ (2,831,343.34)	$ 565,871.86	$ (2,265,471.48)
Library	$ 15,942,494.64	$ (3,186,264.63)	$ 12,756,230.01
Totals	$ 334,671,026.29	$ (66,887,301.98)	$ 267,783,724.31
Annuity Reserve Fund			
General	$ 49,229,700.79	$ 4,125,695.98	$ 53,355,396.77
D.O.T.	$ 8,178,769.49	$ 684,434.08	$ 8,863,203.57
Water	$ 26,843,972.87	$ 2,190,056.50	$ 29,034,029.37
Sewage	$ 1,034,754.11	$ 141,407.13	$ 1,176,161.24
Housing	$ 1,394,761.48	$ 118,354.18	$ 1,513,115.66
Library	$ 3,260,921.01	$ 277,972.07	$ 3,538,893.08
Totals	$ 89,942,879.75	$ 7,537,919.94	$ 97,480,799.69
Pension Accumulation Fund			
General	$ (836,010,031.20)		$ (836,010,031.20)
D.O.T.	$ (253,834,669.03)		$ (253,834,669.03)
Water	$ (261,491,532.41)		$ (261,491,532.41)
Sewage	$ (195,333,828.93)		$ (195,333,828.93)
Housing	$ (34,633,226.20)		$ (34,633,226.20)
Library	$ (32,215,100.57)		$ (32,215,100.57)
Totals	(1,613,518,388.3)		$ (1,613,518,388.34)
Pension Reserve Fund			
General	$ 1,285,359,062.76	$ 21,182,699.50	$ 1,306,541,762.26
D.O.T.	$ 297,398,828.57	$ 15,284,709.68	$ 312,683,538.25
Water	$ 536,193,426.92	$ 16,605,483.18	$ 552,798,910.09
Sewage	$ 71,987,475.96	$ 4,052,423.17	$ 76,039,899.13
Housing	$ 34,142,404.86	$ (684,226.05)	$ 33,458,178.81
Library	$ 65,350,162.19	$ 2,908,292.56	$ 68,258,454.74
Totals	$ 2,290,431,361.25	$ 59,349,382.04	$ 2,349,780,743.29
Accrued Liability Fund			
General	$ 523,899,000.00		$ 523,899,000.00
D.O.T.	$ 121,766,000.00		$ 121,766,000.00
Water	$ 227,151,211.06		$ 227,151,211.06
Sewage	$ 10,410,788.94		$ 10,410,788.94
Housing	$ -		$ -
Library	$ 30,454,000.00		$ 30,454,000.00
Totals	$ 913,681,000.00		$ 913,681,000.00
Retirement System Totals	$ 2,015,207,878.95		$ 2,015,207,878.95

The left hand column shows assets as originally reported which appeared to overstate the interest credited to the ASF Accounts. The middle column adjusts the reserves to account for the actual FY 2014 ASF interest credit of 0% based upon instructions from RSCD staff.

Separation of Assets into ASF and Defined Benefit (DB) Portions by Unit

	Total Assets	ASF Assets Initial	ASF Assets Adjustment	ASF Assets Final	DB Portion
	1	2	3	4=2-3	5=1-4
General	$1,148,608,445	$100,822,317	$ (8,184,624)	$ 92,637,693	$1,055,970,752
Housing	(1,927,403)	(2,265,471)	-	(2,265,471)	338,068
D.O.T.	253,410,638	63,932,565	(1,479,602)	62,452,963	190,957,675
Water	623,240,677	75,748,058	(3,434,211)	72,313,847	550,926,830
Sewage	(90,916,954)	16,790,025	-	16,790,025	(107,706,980)
Library	82,792,477	12,756,230	(546,901)	12,209,329	70,583,148
Totals	**$2,015,207,879**	**$267,783,724**	**$(13,645,339)**	**$254,138,385**	**$1,761,069,494**

Separation of Assets into ASF and Defined Benefit (DB) Portions by Divison

	Total Assets	ASF Assets Initial	ASF Assets Adjustment	ASF Assets Final	DB Portion
	1	2	3	4=2-3	5=1-4
General+Housing	$1,146,681,042	$ 98,556,845	$ (8,184,624)	$ 90,372,221	$1,056,308,820
D.O.T.	253,410,638	63,932,565	(1,479,602)	62,452,963	190,957,675
DWSD (Water/Sewage)	532,323,722	92,538,084	(3,434,211)	89,103,872	443,219,850
Library	82,792,477	12,756,230	(546,901)	12,209,329	70,583,148
Totals	**$2,015,207,879**	**$267,783,724**	**$(13,645,339)**	**$254,138,385**	**$1,761,069,494**

The plan sponsor contribution rates determined in this valuation and the contribution specified in the Plan of Adjustment are related only to the funding of Defined Benefits, and not to the funding of the ASF. Therefore, it is necessary to separate ASF assets from other assets in order to complete the valuation. The financial data that was provided to Gabriel, Roeder, Smith & Company did not reflect the POA mandated claw-back of ASF interest with respect to certain active ASF accounts, leading to the $13 Million reduction in ASF assets that is shown above. We have treated this amount as a reduction in ASF assets, although in reality it is possible that it may at least partially be a reduction in defined benefit liability. This would happen because some affected individuals may not have sufficient assets in their accounts to pay the claw-back. In that case they may be subject to a reduction in their defined benefit when they draw it.

SECTION C

PARTICIPANT DATA

SUMMARY OF MEMBER DATA
JUNE 30, 2014

Active Members

	General	D.O.T.	DWSD	Library	Totals
Number	2,324	813	1,430	314	4,881
% Change in active members	(10.1)%	(7.6)%	(8.7)%	(5.4)%	(9.0)%
Annual payroll ($ millions)	$ 100.6	$ 29.2	$ 60.8	$ 12.9	$ 203.5
Average pay	$43,295	$35,876	$42,505	$41,212	$41,694
% Change in average pay	8.0 %	0.3 %	2.7 %	2.5 %	4.9 %

Retired Members and Survivor Beneficiaries

	General	D.O.T.	DWSD	Library	Totals
Number	7,436	1,677	2,593	320	12,026
Annual benefits ($ millions) #	$ 141.9	$ 32.1	$ 61.7	$ 7.1	$ 242.7
Average benefits #	$19,076	$19,120	$23,777	$22,297	$20,182
% Change in average benefit	(2.2)%	(0.9)%	(2.4)%	(2.7)%	(2.0)%

 # Includes Annuities. Does not include reductions resulting from the annuity claw-backs.

Inactive Vested Members

	General	D.O.T.	DWSD	Library	Totals
Number	1,788	363	506	71	2,728
Annual benefits ($ millions)	$ 18.6	$ 3.8	$ 5.3	$ 0.5	$ 28.2
Average benefits	$10,391	$10,383	$10,475	$7,453	$10,329
% Change in average benefit	(2.1)%	(6.3)%	(4.3)%	(6.0)%	(3.1)%

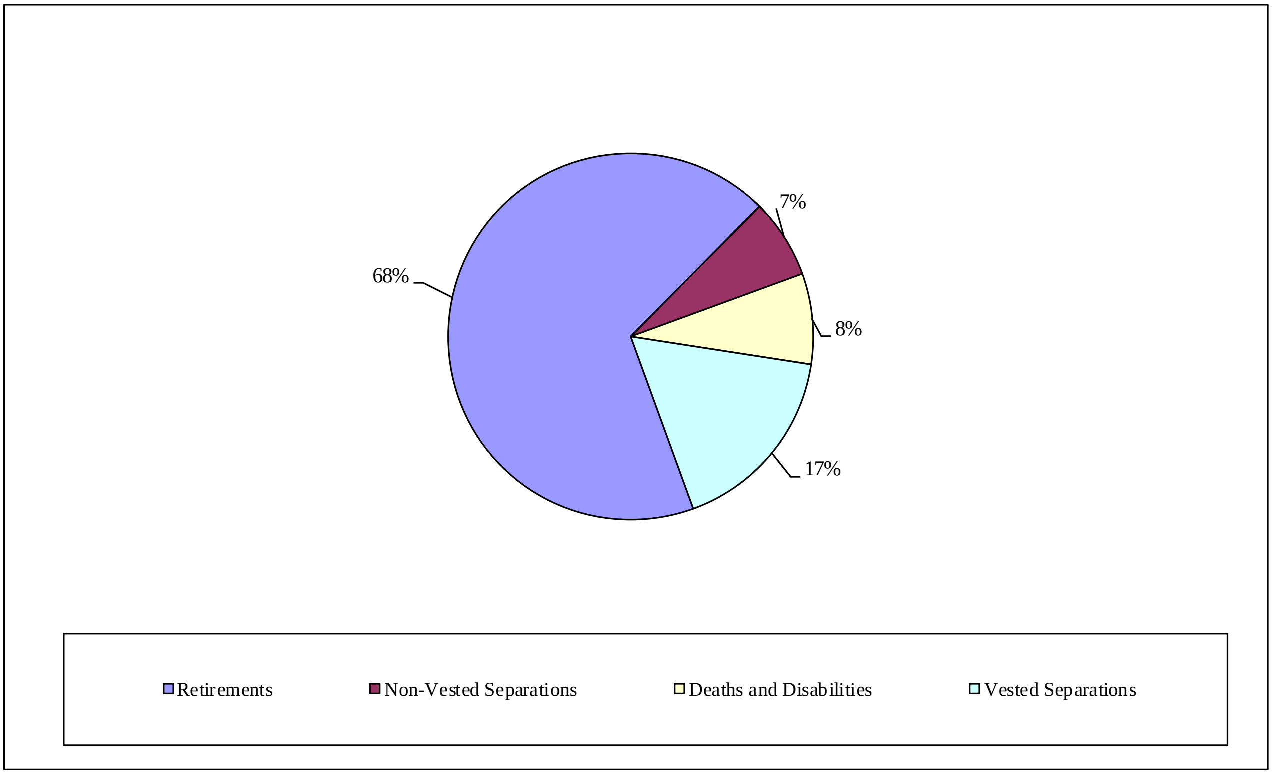
ACTIVE MEMBERS AS OF JUNE 30, 2014
BY ATTAINED AGE AND YEARS OF SERVICE
RETIREMENT SYSTEM TOTALS

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	2							2	$ 52,998
20-24	41	8						49	1,313,879
25-29	83	29	3					115	3,793,913
30-34	71	62	61	10				204	7,297,355
35-39	85	89	140	70	6			390	14,964,395
40-44	94	98	180	198	34	4		608	24,684,789
45-49	58	114	180	294	128	95	3	872	37,541,531
50-54	74	84	190	300	191	256	35	1,130	47,606,303
55-59	41	67	153	229	166	243	84	983	42,035,594
60-64	37	37	61	68	51	91	34	379	17,267,440
65-69	11	9	19	26	9	15	16	105	5,092,990
70-74	3	2	11	9	1	4	6	36	1,547,402
75-79	1	1	3	1	0	0	2	8	308,490
Totals	**601**	**600**	**1,001**	**1,205**	**586**	**708**	**180**	**4,881**	**$203,507,079**

Group Averages:

Age:	49.2 years
Service:	16.0 years
Annual Pay:	$41,694

EXPECTED TERMINATIONS FROM ACTIVE EMPLOYMENT FOR CURRENT ACTIVE MEMBERS



The chart shows the expected future development of the present population in simplified terms. The Retirement System presently covers 4,881 active members. Eventually, 327 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 4,168 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 386 people are expected to become eligible for death-in-service or disability benefits.

Actual verses expected retirements for the 2014 fiscal year is shown below:

Year Ended June 30,	Expected	Actual
2014	226	307

RETIREES AND BENEFICIARIES JUNE 30, 2014
TABULATED BY ATTAINED AGES
RETIREMENT SYSTEM TOTALS

Attained Ages	Age & Service#		Disability		Death-in-Service		Totals	
	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances
Under 20*	12	$ 17,311	1	$ 504	7	$ 3,350	20	$ 21,165
20-24	3	3,758					3	3,758
25-29	6	2,065					6	2,065
30-34	6	5,536	4	1,390			10	6,926
35-39	7	6,711	8	4,516	1	788	16	12,015
40-44	22	17,799	30	17,400	1	430	53	35,629
45-49	123	201,395	66	41,251	8	10,266	197	252,912
50-54	465	963,175	155	105,266	28	32,524	648	1,100,965
55-59	1,098	2,607,025	266	261,693	38	47,179	1,402	2,915,897
60-64	2,025	4,063,566	214	269,447	46	70,577	2,285	4,403,590
65-69	1,940	3,569,732	175	196,229	34	56,414	2,149	3,822,375
70-74	1,374	2,208,563	83	71,610	41	47,633	1,498	2,327,806
75-79	1,007	1,437,427	57	48,610	35	39,190	1,099	1,525,227
80-84	973	1,198,451	37	27,663	63	57,796	1,073	1,283,910
85-89	882	994,824	43	35,054	46	36,683	971	1,066,561
90-94	429	439,535	12	8,377	35	28,178	476	476,090
95 and Over	112	81,678	2	1,322	6	3,317	120	86,317
Totals	**10,484**	**$17,818,551**	**1,153**	**$1,090,332**	**389**	**$434,325**	**12,026**	**$19,343,208**

* *May include records with defective birth dates.*
\# *Includes survivor beneficiaries of deceased retirees.*

RETIREES AND BENEFICIARIES JUNE 30, 2014
TABULATED BY YEAR OF RETIREMENT

Year of Retirement	No.	Monthly Allowances Total	Monthly Allowances Average
1950 & before	2	$ 3,244	$ 1,622
1951-1955	1	3,530	3,530
1956-1960	5	1,935	387
1961-1965	22	9,136	415
1966-1970	55	25,777	469
1971-1975	254	156,392	616
1976-1980	533	441,585	828
1981-1985	965	1,030,428	1,068
1986-1990	966	1,122,123	1,162
1991-1995	1,567	2,031,858	1,297
1996-2000	1,625	2,616,868	1,610
2001-2005	2,212	4,369,973	1,976
2007	390	691,952	1,774
2008	390	782,248	2,006
2009	501	981,640	1,959
2010	471	991,226	2,105
2011	605	1,288,292	2,129
2012	801	1,573,345	1,964
2013	452	812,980	1,799
2014	209	408,676	1,955
Totals	**12,026**	**$19,343,208**	**$1,608**

SECTION D

METHODS AND ASSUMPTIONS

SUMMARY OF ASSUMPTIONS AND METHODS USED FOR ACTUARIAL VALUATIONS ADOPTED BY BOARD OF TRUSTEES

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate used in making the valuation was 6.75% per year, compounded annually (net after investment and administrative expenses). This assumption is prescribed by the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (POA).

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. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables. 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. The rationale for the mortality assumption is based on the 2008-2013 Mortality Experience Study issued February 4, 2015.

The probabilities of retirement for members eligible to retire are shown on pages 21 and 22. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on page 23. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

SUMMARY OF ASSUMPTIONS AND METHODS USED FOR ACTUARIAL VALUATIONS ADOPTED BY BOARD OF TRUSTEES

Funding Methods

The unit credit cost method was used in determining age & service pension liabilities, vesting liabilities, and casualty pension liabilities. Under this method, there is no normal cost since benefits are frozen and there are no future accruals and actuarial accrued liability is the present value of each individual's accrued benefit.

Unfunded Actuarial Accrued Liabilities Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.

Employer contribution dollars were assumed to be paid at the end of the employer fiscal year.

Present assets are set equal to the Market Value.

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.

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)	
	Men	**Women**
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

Rationale for assumption is 2002 to 2007 Experience Study.

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

Rationale for assumption is 2002 to 2007 Experience Study.

SAMPLE RATES OF SEPARATION FROM ACTIVE EMPLOYMENT BEFORE RETIREMENT

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal			
				Others	
		EMS	D.O.T.	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

Rationale for assumption is 2002 to 2007 Experience Study.

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 at the end of the year.
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.
Service Credit Accruals	Service accruals stop as of June 30, 2014 for measurement of end of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II.
Administrative Expenses	The investment return assumption is mandated to be net of administrative expense in the plan document. No other provision for administrative expenses is included in this valuation.
Sick Leave	As of June 30, 2014, this information was included in the 2014 AFC amounts.
AFC Adjustment	Reported 2014 AFC amounts were increased by 2.0% for active members due to data discrepancies related to the reported AFC.

Rationale for assumption is 2002 to 2007 Experience Study, modified as necessary for changes in data or administration.

SECTION E

PLAN PROVISIONS

SUMMARY OF BENEFIT PROVISIONS EVALUATED

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future cost-of-living adjustments ("COLA's") were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a "Claw-back." Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

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.

SUMMARY OF BENEFIT PROVISIONS EVALUATED (CONTINUED)

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.

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.

SUMMARY OF BENEFIT PROVISIONS EVALUATED (CONCLUDED)

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).

SECTION F

GLOSSARY

GLOSSARY

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

AFC. Average Final Compensation.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

APTE. Association of Professional and Technical Employees.

GLOSSARY

Contribution Budgeting Liability. An expected return based measure of pension obligation.

D.O.T. Department of Transportation.

EMS. Emergency Medical Service.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

GASB. The Governmental Accounting Standards Board.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

POA. The 8^{th} Amended Plan for the Adjustment of the Debt of the City of Detroit.

POC. Pension Obligation Certificates.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

SAAA. Senior Accountants, Analysts, and Appraisers Association.

Solvency Liability. A market-based measure of the present value of accrued benefits at a municipal bond discount rate unadjusted for the credit quality of the plan sponsor.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.